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1   UNITED STATES DISTRICT COURT
                    EASTERN DISTRICT OF TEXAS
2   LUFKIN DIVISION

3   PERSONAL AUDIO, LLC | DOCKET 9:09CV111
                                 |
4 | JUNE 28, 2011
    VS. |
5 | 8:28 A.M.
                                 |
6   APPLE, INC., ET AL | BEAUMONT, TEXAS

7   --

8   VOLUME 4 OF __, PAGES 889 THROUGH 1261

9   REPORTER'S TRANSCRIPT OF JURY TRIAL

10   BEFORE THE HONORABLE RON CLARK
       UNITED STATES DISTRICT JUDGE, AND A JURY
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1   (REPORTER'S NOTES PERSONAL AUDIO V. APPLE,

2   JURY TRIAL, VOLUME 4, 8:28 A.M., TUESDAY, JUNE 28, 2011,

3   BEAUMONT, TEXAS, HON. RON CLARK PRESIDING.)

4   (OPEN COURT, ALL PARTIES PRESENT, JURY

5   PRESENT.)

6   THE COURT: Welcome back, ladies and

7   gentlemen.

8   Counsel, go ahead.

9   MR. HOLDREITH: Thank you, your Honor.

10   CONTINUED DIRECT EXAMINATION OF

11   KEVIN C. ALMEROTH

12   CALLED ON BEHALF OF THE PLAINTIFF

13 BY MR. HOLDREITH:

14 Q.   Good morning, Dr. Almeroth.

15 A.   Good morning.

16 Q.   When we left off yesterday, we were looking at

17 this Demonstrative Number 1058 on the iPod groups. I'd

18 like to ask you now: For each of the seven groups that

19 we haven't talked about yet, 2 through 8 and the classic

20 1 and 2 as well, did you also analyze a user guide and

21 technical specifications and a chip schematic and a bill

22 of materials?

23 A.   Yes, I did.

24 Q.   And for purposes of the information that you were

25 relying on to determine what's in the iPods, did those

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1 kinds of documents contain the same information in the

2 user guides and chip schematics and bills of materials

3 and technical specifications that you found in the

4 documents for the classic 3?

5 A.   They contained very similar information. Some of

6 it was identical. Much of it was overlapping. So, it

7 really became a process of what I've talked about for

8 classic 3, finding similar kinds of information in the

9 other materials.

10 Q.   Are you prepared, Dr. Almeroth, to explain where

11 you found differences that mattered to your infringement

12 analysis in these other seven groups?

13 A.   Yes, sir, I am.

14 Q.   And have you prepared a chart to help illustrate

15 that testimony?

16 A.   I have.

17 Q.   Dr. Almeroth, I'm now showing you the

18 Demonstrative Exhibit 1059. Can you explain what this

19 is, please?

20 A.   Yes. This is a chart that I prepared. It has the

21 groups across the top, 1 through 8. And then down the

22 rows are the different elements as they relate to

23 claim 1. What that means is inside of the table what

24 I've identified is differences between the devices and

25 between the groups; and then I've also recognized that

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1 for other parts, they are also substantially the same.

2 Q.   All right. So, just to orient us, across the top

3 where it says "Group 1, 2, 3, 4, 5, 6, 7, 8," is that the

4 same groups we've been talking about?

5 A.   Yes, sir, they are.

6 Q.   And down the column that says "Element," are these

7 related to the patent claims in '076 claim 1 somehow?

8 A.   Yes, they are.

9 Q.   Explain that, please.

10 A.   There is a little bit of a shorthand that I've

11 used in the words themselves, but I've also included a

12 key that references to the number and the letter that

13 corresponds to the board on the left so that I can

14 explain some of those similarities and differences across

15 the limitations.

16 Q.   So, for example, the first row has the label

17 "means for accepting commands 1C" here (indicating).

18 A.   Yes.

19 Q.   How is that related to the '076 claim 1?

20 A.   That is element 1C from claim 1 of the

21 '076 patent.

22 Q.   All right. Now, why is there a row across next to

23 "means for accepting commands 1C"? What's the

24 significance of that?

25 A.   The goal of this chart is to be able to take any

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1 column and any row and match it up. And what I've tried

2 to do then inside the body of the table is where there

3 were similarities across the devices, those rows -- or

4 those cells would be grouped together. And where there

5 were differences that I had to analyze with respect to my

6 opinion, then there would be a dividing line.

7   So, for example, in the "means for accepting,"

8 the classic 3 that we've talked about had the buttons

9 across the top; but all of the other devices in the

10 groups had the buttons that were inside of the

11 Clickwheel, that you could just press the Clickwheel and

12 that would correspond to the button. So, that was a

13 difference that I had noted and want to discuss now.

14 Q.   All right. Just as a reminder, I'll put the

15 definition for the structure for that element 1C, means

16 for accepting, up on the big screen. That was the one

17 where you were looking for a structure that is equivalent

18 to a keyboard?

19 A.   That's correct.

20 Q.   All right. And I think you've already explained

21 it in part. Could you just briefly explain, did you find

22 structure that is identical or equivalent to the keyboard

23 structure in all of the seven other groups of iPods that

24 you analyzed?

25 A.   Yes, I did. As I said, the keys that are part of

901

1 this board of keys here are separate from the Clickwheel.

2 But then in the later versions -- and I'll do the mini 2

3 because it's still a little bit bigger. You have --

4 Q.   Doctor -- I'm sorry -- could you just tell us the

5 exhibit number for the iPod you're holding in your hand?

6 A.   Yes, sir. This is Defendant's Exhibit 104.

7 Q.   Thank you.

8 A.   This device has the buttons that are part of the

9 Clickwheel. You can still move your finger around in a

10 circular fashion to navigate up and down lists, but the

11 buttons themselves are part of the Clickwheel. So, in

12 order to, for example, skip, you just have to press that

13 button. And I don't know if they'll be able to see

14 these, but you can feel when you press it that there is a

15 click just like with a key on a keyboard.

16   And that's the same for all of the devices,

17 all of the way up into the nano 5, which is a little bit

18 harder to see but it has the same kind of configuration.

19   And what I'm showing in this

20 Demonstrative 1059 is that in the classic 3, the buttons

21 were separate from the Clickwheel; and then afterwards

22 they were all integrated into the Clickwheel.

23 Q.   And are the buttons that are on the Clickwheel

24 there -- are those the same buttons that were in a row

25 across the top on the classic 3?

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1 A.   That's correct. There are the four buttons, the

2 back command, the menu, the play/pause, and then the skip

3 command.

4 Q.   And they do the same thing as the four buttons on

5 the classic 3?

6 A.   Yes. That's correct.

7 Q.   All right. Dr. Almeroth, did you find element 1C

8 of the '076 patent, claim 1, in all seven groups that you

9 analyzed other than the classic 3?

10 A.   Yes, I did.

11 Q.   All right. I'd like to ask you now about the next

12 row on Demonstrative Exhibit 1059 labeled "persistent

13 storage" with element 1A and 1B. What is that?

14 A.   This relates to the persistent storage that's

15 required for the limitations 1A and 1B. As we discussed

16 yesterday with respect to classic 3, 1A requires a means

17 for storing. 1B is the means for receiving and storing.

18   With respect to the storing limitations that

19 are required in the function and then the corresponding

20 structure, I analyzed all eight groups and all 18 devices

21 with respect to that persistent storage. And what I've

22 done for this row is there are basically two types of

23 persistent mass storage that are used in these devices.

24 There's the hard disk drive that we used for classic 3.

25 And, in fact, that first column is representative of what

903

1 we went through in detail yesterday.

2 Q.   You're speaking about Column 1 here (indicating)?

3 A.   Yes, sir.

4 Q.   Okay.

5 A.   So, for example, we talked about the hard disk

6 drive in classic 3. Classic 4 and classic 5 have a hard

7 disk drive. Nanos 1, 2, and 3 have a NAND flash; and I

8 can talk about that in a little bit more detail. And

9 then classic 6 has a hard disk drive, and the nano 4 and

10 5 have this NAND flash that they use as persistent mass

11 storage.

12   So, that's a difference between the devices;

13 but it doesn't affect my conclusion.

14 Q.   Dr. Almeroth, let me pause for a moment. I see

15 that Group 6 has a nano 3 and a classic 6 but they have

16 different persistent storage; is that right?

17 A.   That's correct.

18 Q.   And the nano 3 and the classic 6, are they grouped

19 together in the same Group 6?

20 A.   That's correct. Apple had grouped these together

21 to create one group with nano 3 and classic 6. And

22 what's interesting about that grouping is one of the

23 devices has a hard disk drive and one of the devices has

24 a NAND flash for persistent mass storage.

25   In other words, by grouping these together,

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1 Apple didn't draw a distinction between the type of mass

2 storage that was used in the device; and that's

3 consistent with my opinion as well.

4 Q.   What is NAND flash?

5 A.   NAND flash is a kind of chip that you're able to

6 store programs on. There is a type of flash memory that

7 you use in the little USB connector memory devices that

8 you plug in. It's persistent because when power leaves

9 the device, what's stored on that device is still there.

10   There's advantages to using NAND. For

11 example, it doesn't have the spinning hard disk drive.

12 But what's important for the limitation is that it's

13 still a persistent mass storage device.

14 Q.   And for people in your field, is NAND flash a kind

15 of persistent storage?

16 A.   Yes, it is.

17 Q.   All right. How did you determine that the -- some

18 of these other devices in Groups 4, 5, 7, and 8 have NAND

19 flash for persistent storage for storing songs on a

20 sequencing file?

21 A.   I used much of the same methodology, the kinds of

22 documents that I described yesterday with respect to the

23 classic 3. So, for example, the technical specification,

24 the bill of materials, and then the chip schematics all

25 describe using the NAND flash memory to store songs and

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1 playlists.

2 Q.   I'm showing you now Plaintiff's Exhibit 287. What

3 is this?

4 A.   This is part of the technical specification. This

5 is one of the documents, and it relates to -- now we're

6 talking about the nano third generation device.

7 Q.   And that's what the title says up here?

8 A.   Yes, sir.

9 Q.   Now, what in this document was relevant to the

10 persistent storage and the NAND flash?

11 A.   There's two parts I would want to point out to.

12 The first is the top part of this table. And it talks

13 about storage and capacity and it talks about the

14 4 gigabytes and also there is a second type of device

15 that has 8 gigabytes instead of the 4 gigabytes. And it

16 talks about using that storage for songs.

17 Q.   And did you also inspect the iPods and determine

18 whether that storage is used for the sequencing file?

19 A.   Yes, sir, I did.

20 Q.   What did you find?

21 A.   I found that that same NAND flash memory as the

22 persistent mass storage device is used for both songs and

23 playlists.

24 Q.   Was there another part of this document you wanted

25 to point out?

1 A.   Down here (indicating), under "capacity," it

2 provides a little bit more information. It mentions

3 again that the capacity of this flash drive is

4 4 gigabytes and 8 gigabytes.

5 Q.   What does that tell you?

6 A.   That tells you that -- especially these other

7 lines where it talks about the songs and the format are

8 related to using that device to store -- the NAND flash

9 drive to store songs.

10 Q.   As long as we're on this document, Dr. Almeroth, I

11 just wanted to ask you: There's a reference here -- if I

12 could just pull it up -- to "included accessories." What

13 does this tell us?

14 A.   One of the included accessories are the earphones.

15 That was the part that you needed for the speakers, or

16 headphones. And then it also includes the USB cable as

17 well.

18 Q.   Dr. Almeroth, in addition to the technical

19 specification, how did you determine that that flash

20 storage is NAND flash storage?

21 A.   I looked at both the bill of materials and also

22 the chip schematic.

23 Q.   All right. Let's look at the chip schematic. I'm

24 showing you Plaintiff's Exhibit 98. What is this?

25 A.   This is for N46 -- that's the internal code word

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1 for the -- I believe it's the nano 3. And down here

2 (indicating) it talks about NAND flash, and it has in

3 parentheses "mass storage."

4 Q.   Okay. And is that an indication you relied on to

5 find that the iPod nano's NAND flash is persistent mass

6 storage?

7 A.   It is.

8 Q.   Just as long as we're looking at this document, do

9 you see the line that says -- line 6 here, "WM audio"?

10 A.   Yes.

11 Q.   What's that a reference to?

12 A.   That's a reference to the audio -- the

13 digital-audio conversion capability that's inside of the

14 nano 3. It's part of this device.

15 Q.   And line 7 talks about "FireWire power" and "USB

16 RVP." What's that about?

17 A.   What that's describing is by the time that you get

18 to nano 3, it still has FireWire but the only use of

19 FireWire at this point is for charging. All of the data

20 transfer features are being done through USB; so, the

21 songs in the playlists come over the USB cable and not

22 FireWire.

23 Q.   All right. Now, you mentioned NAND flash is on

24 page 4. If we go to page 4 of Plaintiff's Exhibit 98,

25 what does this show?

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1 A.   This is the NAND flash, and then there is the

2 controller. The controller is the gateway that will read

3 and write data from the NAND flash.

4 Q.   Now, Dr. Almeroth, having looked at these

5 documents, did you find that there was similar

6 information in the technical specifications and the chip

7 schematics for all eight groups of iPods that you

8 analyzed?

9 A.   Yes, I did.

10 Q.   Do all eight groups have a high-speed RAM storage

11 and a persistent mass storage that's either a hard drive

12 or a NAND flash?

13 A.   Yes, they do.

14 Q.   And did you find, therefore, that elements 1A and

15 1B are met of the '076 claim 1 for all eight groups of

16 iPods?

17 A.   That's correct.

18 Q.   All right, Dr. Almeroth. Now, I asked you about

19 how you found that there is RAM. Can you point us to

20 that?

21 A.   Yes. There are additional documents, both -- and

22 I believe in the chip spec and then also in the technical

23 specifications that describe the use of RAM.

24 Q.   Okay. Let's go to the next row here, which is

25 "algorithms." And it says that's relevant to 1D, 1E, and

1 1F.   Can you explain that, please?

2 A.   Yes.   The software that we looked at yesterday, 1D

3 was continuously playing; 1E was the means for

4 detecting -- I went over that fairly quickly because

5 Apple has not contested that that limitation is

6 present -- and then for 1F, that was executing the skip

7 forward command.   And those were the three parts of this

8 claim that had algorithm steps.

9   So, what I have labeled here as the row is the

10 label of "algorithms"; and what I've pointed out is

11 across these eight groups, there are really three

12 different types of software.   The first one was

13 "Player.c."   Most of the functions that we looked at

14 yesterday were in a file called "Player.c."

15   What happened then after nano 1 was they

16 started to do some updating and a transition to a new

17 function or a new file and a new set of functions called

18 "TPodMediaPlayer."   And the ".cpp" refers to an updated

19 version of the C programming language called "C" and then

20 "++."   So, I analyzed that as well.

21   And then for the nano 2, it was slightly

22 different because it was in the process of transitioning.

23 And I looked at the source code for all of the devices to

24 confirm that everything that I talked about yesterday

25 with respect to the limitations 1D, 1E, and 1F were in

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1 all of that different software.

2 Q.   So, let's just understand this, Dr. Almeroth. One

3 change you just mentioned is that some iPods were using

4 this Player.c type code, and then did Apple later go to

5 use some of this TPodMediaPlayer.cpp type code?

6 A.   Yes. I mentioned that there were 23,000 files

7 across the 13 devices; and I've really just picked one of

8 the main file names to represent all of the code.

9   Many of the files stayed the same that were

10 relevant to my analysis. Some changed over time and --

11 but at the same time, I found all of the algorithms that

12 I discussed yesterday in the different code.

13 Q.   And for the devices in Groups 1, 2, 3, and 4 --

14   MR. HOLDREITH: Your Honor, may I point

15 something out on the chart?

16   THE COURT: You may.

17 BY MR. HOLDREITH:

18 Q.   For 1, 2, 3, and 4 that use this Player.c type

19 code, is it exactly the same for all four of those?

20 A.   It's not exactly the same, but it's very close.

21 One of the ways that you can tell is that the names of

22 the functions are the same. For example, there would be

23 a PlayerNext function and you can look at the source code

24 and the next file and it's still called "PlayerNext."

25 And then in the next it's called "PlayerNext."

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1   The same thing for some of the other functions

2 that were described that -- that I described yesterday.

3 They have the very similar kind of algorithms. There's a

4 couple of different steps as some of the devices included

5 additional features. There's additional things that the

6 software would do. But by and large and especially with

7 respect to my analysis for infringement here, those

8 algorithms were very, very similar.

9 Q.   And for the iPods in Groups 5, 6, 7, and 8 that

10 use the hybrid and the TPodMediaPlayer.cpp type code, did

11 you analyze all of those?

12 A.   Yes, I did.

13 Q.   And are those exactly the same?

14 A.   No. Again there are some small differences, but

15 by and large the algorithms that are present in that

16 source code are very similar across all of those groups.

17 Q.   Did you also look at classic 1 and 2 source code?

18 A.   I did and it used Player.c and it was very similar

19 to Groups 1 through 4.

20 Q.   Okay. Now, Dr. Almeroth, as a reminder, are we

21 talking about the algorithms like on Demonstrative

22 Exhibit 1010 that I have on the screen now?

23 A.   Yes, sir. The parts that are highlighted that

24 represent the algorithm -- or the algorithms for the

25 commands that are highlighted in this demonstrative.

1 Q.   And is this something that you looked into the

2 source code to find?

3 A.   That's correct.

4 Q.   Okay.   And when we walked through lines of source

5 code yesterday, is that what this is related to?

6 A.   That's exactly correct.

7 Q.   Now, did you find, Dr. Almeroth, for all eight

8 groups of iPods that the algorithms that the court

9 defined as structure for elements 1D, 1E, and 1F of the

10 '076 patent claim 1 are present either literally or

11 equivalently in all eight groups of iPods?

12 A.   Yes, sir, I did.

13 Q.   And yesterday did you show an example or examples

14 from the Player.c type code for the classic 3?

15 A.   Yes.   That's correct.

16 Q.   And did that include discussion of, for example,

17 the continuously reproducing algorithm in limitation 1F?

18 A.   That's -- yes.

19 Q.   So --

20 A.   Sorry.   Continuously reproducing was 1D.

21 Q.   I'm sorry.   I misspoke.   Thank you, Dr. Almeroth.

22   Can you now, with reference to TPodMediaPlayer

23 type code, explain how you found some of these

24 algorithms?

25 A.   Certainly.   I used a very similar technique.   I

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 1 went into the code. Certainly having learned what I

 2 learned from the Player.c, I could look for similar kinds

 3 of statements that would be used as a guide that would

 4 show me what was happening.

 5   I also used as a guide, for example, the -- we

 6 talked about the interrogatories that were provided by

 7 Apple yesterday; and that provided information about

 8 where in that source code the functions related to

 9 continuously reproducing, skip, and then the back

10 commands.

11 Q.   Can you actually show us some source code to show

12 us what you found?

13 A.   Yes, I can.

14 Q.   All right. Where should we start?

15 A.   One of the things that I did -- and remember for

16 continuously reproducing as well as for skip forward --

17 was after both parts came to this PlayerNext -- and what

18 PlayerNext had to do was to figure out what the next

19 playable item was, and it would do that by calling a

20 function. That was the "while" loop and then the

21 comment.

22   One of the things that I did was to look for

23 that same kind of information in the source code. What

24 I've got then is for four different versions, starting at

25 the very beginning with the classic 3 going all of the

914

1 way to the nano 5, some information related to that.

2   So, Mr. Holdreith, if you could put up on the

3 screen, there is a Plaintiff's Exhibit 712; and that is

4 nano 5 source code.

5 Q.   I'm now showing you Plaintiff's Exhibit 712. Is

6 that what you're referring to?

7 A.   Yes, sir.

8 Q.   Okay.

9 A.   If you go to page 31 in that document --

10 Q.   Dr. Almeroth, let me ask you a question. Are we

11 going to be comparing different versions of the source

12 code together on the screen now, or are we going to stick

13 to this one version?

14 A.   Let me just point out some of the features of this

15 one version first.

16 Q.   Okay. So, that was page 32?

17 A.   Let's start with page 31.

18 Q.   31. All right -- oops. I think I gave you 30.

19 I'll go forward one.

20   Okay. I'm showing you Plaintiff's Exhibit 712

21 at page 31. Just to be perfectly clear, this is which

22 source code?

23 A.   This is for the nano 5.

24 Q.   All right.

25 A.   And if you pull up -- if you can expand on this

1 (indicating) part of the code. There is a function here

2 called "NextTrackInternal," and you can see that it's

3 part of TPodMediaPlayer.

4   The other thing that I wanted to point out

5 here was this is called "nextTrack," and there is an

6 internal version. For classic 3 it was called

7 "PlayerNext." So, the function names are very similar.

8   If you could now go to the next page.

9 Q.   Page 31.

10 A.   Right. We're on 31. I believe it's 32.

11 Q.   Excuse me. All right. Here we are.

12 A.   And then just highlight at the top here

13 (indicating).

14 Q.   This part (indicating)?

15 A.   Yes, sir.

16 Q.   Okay.

17 A.   And this is around line 3124 and what you see is a

18 "while" statement structure and you see a comment here

19 that says, "Find the next song in the playlist that is

20 selectable." And that's very similar to what was shown

21 in classic 3. And what's a little bit different here is

22 here you now do the incrementing, that "++," of the index

23 right after that command. And before in the classic 3 it

24 had to call a separate function.

25   So, here it just does it right here in the

916

 1 code.

 2   And for comparison, what I would like you to

 3 do is put up four different versions for four different

 4 devices of the source code.

 5 Q.   All right. Could I just ask a question first?

 6 The TrackIndex++, is that -- in terms of the playlist,

 7 what is that doing?

 8 A.   In terms of the playlist, this is going from the

 9 sixth song to the seventh song. As an example, that's

10 the "++" part. The trackIndex is the CurrentPlay

11 variable that indicates where you are in that list --

12   MR. STEPHENS: Objection, your Honor. This is

13 not in his expert report.

14   THE COURT: Overruled.

15 A.   This is the CurrentPlay variable that indicates

16 where in the index that you're at. And by doing the

17 incrementing here, it just goes to the next song. And

18 remember you had to do that both when you were at the end

19 of a song naturally or if the "skip" button was pressed.

20 BY MR. HOLDREITH:

21 Q.   All right. You had asked me to put up four pages

22 of four different versions of source code for comparison.

23 Is that what we're going to do?

24 A.   Yes, sir.

25 Q.   Okay. Where do we start?

917

1 A.   The way I would like to organize it is in the

2 upper left to start with nano 5. And that's Plaintiff's

3 Exhibit 712.

4 Q.   Okay. And we'll blow this up in a moment so we

5 can see it, right?

6 A.   Yes, sir.

7 Q.   All right. I'm showing Plaintiff's Exhibit 712,

8 page 32. Is that where we want to be?

9 A.   Yes, sir.

10 Q.   Okay. Next?

11 A.   And then in the right panel, in the panel to the

12 right, Plaintiff's Exhibit 715 on page 30. And this will

13 be code for the nano 3.

14 Q.   All right.

15 A.   And then in the lower left, Plaintiff's

16 Exhibit 714 on page 34.

17 Q.   All right.

18 A.   And this will be code for nano 2.

19   And then Plaintiff's Exhibit 713 on page 196

20 and this will be code for the classic 3.

21   So, we have code starting with the classic 3

22 in the lower right all of the way up to the nano 5; and

23 it's code that's representative that spans all of the

24 different versions of the device.

25   And now if you'll blow up the portion -- let's

918

 1 start with nano 3 first in the upper right.

 2 Q.   This bit here (indicating)?

 3 A.   Sure. That will work.

 4   So, that's nano 5 code.

 5 Q.   Okay.

 6 A.   And then the upper right will be nano 3.

 7 Q.   Is that right here (indicating)?

 8 A.   Yes.

 9 Q.   Okay. I'll put those in order, I guess, huh?

10 A.   Yes.

11 Q.   All right.

12 A.   And then the lower left -- and that's also towards

13 the top of the page.

14 Q.   About right here (indicating)?

15 A.   Yes, sir.

16 Q.   All right.

17 A.   And then for classic 3, the lower right, it's

18 about in the middle of the page, a little further down.

19 Q.   About there (indicating)?

20 A.   Yes.

21 Q.   Okay. Is that it?

22 A.   Yes.

23 Q.   What do we see here?

24 A.   Let me start at the bottom. We spent a fair

25 amount of time talking about the classic 3 and it has

919

1 this "while" loop structure and it says, "Find the next

2 song in the playlist that actually plays or is selected."

3   Then when we go to the nano 2 code --

4 Q.   Sorry, Dr. Almeroth. What line is that?

5 A.   That's about line 4123.

6 Q.   Okay. And that's in plaintiff's exhibit --

7 A.   That's 713. That's the classic 3.

8 Q.   All right.

9 A.   Next up then is Plaintiff's Exhibit 714 for

10 nano 2, starting at about line 2028 you have that same

11 structure. It says "while (DoNext)," and then the

12 comment is "Find the next song in the playlist that is

13 selectable." And the function here that's below it that

14 actually does that incrementing is called

15 "GetNextPlaylistTrack."

16   And actually let's go back down to classic 3

17 and highlight that line as well. And that's

18 PlayerGetNextPlaylistTrack. So, really they just changed

19 the wording a little bit.

20   Moving up, this code is nano 3 and it's at

21 about line 2799 and it has the same "while (DoNext)" and

22 the same comment, "Find the next song in the playlist

23 that is selectable." And then it calls the function

24 right after it "GetNextPlaylistTrack," which is very

25 similar to nano 2.

920

1   And then for nano 5, it has "while (DoNext)"

2 starting at line 3315. Same comment, "Find the next song

3 in the playlist that is selectable." And now instead of

4 calling a separate function, it just does the

5 incrementing right here in the code.

6 Q.   Dr. Almeroth, which part of the patent claim is

7 this function relevant to?

8 A.   This is relevant to 1D, the means for continuously

9 reproducing, as when you go to the next song in the

10 playlist and also limitation 1F when the user hits a

11 "skip" button and goes to the next song in the playlist.

12 Q.   All right. And, Dr. Almeroth, what did you

13 conclude from comparing all of this code?

14 A.   What I concluded is for this function and for

15 other functions, I found similarities, the same

16 similarities in the code. And, so, what I concluded is

17 that the same algorithms that were used in the classic 3

18 and the same algorithms that I identified as

19 corresponding to the structure that the court has

20 identified for limitations 1D, 1E, and 1F were present in

21 all of the groups.

22 Q.   Did you conclude, Dr. Almeroth, that all eight

23 groups of iPods that you analyzed have identical or

24 corresponding algorithms to the ones the court defined

25 for elements 1D, 1E, and 1F of the '076 patent claim 1?

921

1 A.   Yes, I did.

2 Q.   And do those eight groups meet the limitations 1D,

3 1E, and 1F of the '076 claim 1?

4 A.   Yes, they do.

5 Q.   Have you explained everything you wanted to touch

6 on for the algorithm row now?

7 A.   Yes, sir.

8 Q.   Let's turn to the next row, sequencing file that

9 says "1B." Would you explain why that row is there?

10 A.   Yes. The sequencing file is the way that the

11 information is stored on the device, the way that the

12 information in the sequencing file and the playlist is

13 stored on the device. And what this row shows is for

14 this first seven groups, they use this thing called an

15 "*iTunes* DB." And the *iTunes* DB stored -- is what stores

16 the playlists and information about the songs.

17   Starting with the nano 5, the organization of

18 that file changed and it became SQL. And "SQL" stands

19 for the "structured query language." It's a different

20 way of organizing a database of information from just

21 having it in a file called "*iTunes* DB."

22 Q.   Now, is that important to understanding

23 infringement in this case?

24 A.   It's important to understand that there are those

25 differences. But with respect to my conclusions, it

922

1 didn't have an impact on whether or not the limitations

2 were met.

3 Q.   Okay. For all devices that use the *iTunes* DB --

4 in other words, Groups 1 through 7 -- did you find source

5 code in those seven groups that relates specifically to

6 storing the sequencing file?

7 A.   Yes, I did.

8 Q.   And for the nano 5 that uses the sequel database,

9 did you find source code in the nano 5 that is

10 specifically for storing the sequencing file?

11 A.   Yes, I did.

12 Q.   And what did you have to do differently when you

13 analyzed that question for the sequel-type database for

14 nano 5?

15 A.   The name of the files changed, and the way that it

16 was organized changed. And, so, the names of the source

17 code files also changed; and the structure of that

18 information changed.

19   But as part of my analysis, when I looked

20 through the source code to determine that there was a

21 database related to *iTunes* DB, I made sure that all of

22 the parts were there, for example, that you had the

23 persistent ID that was required by the limitations. And

24 then when I got to the sequel, I did the same thing; and

25 I made sure that all of the parts that were required for

923

1 the algorithms were in that source code as well.

2 Q.   Did you have any testimony of Apple engineers that

3 was relevant to this point?

4 A.   Yes, I did.   The Apple engineers, as part of their

5 depositions, had answered questions about how that data

6 was organized; and I used that as a guide in looking

7 through the source code to confirm what they had said.

8 Q.   Did you conclude, Dr. Almeroth, that all eight

9 groups of iPods do, in fact, store a sequence and

10 persistent storage?

11 A.   Yes, sir.

12 Q.   What's your conclusion about whether all eight

13 groups of iPods meet limitation 1B of the '076 patent

14 claim 1?

15 A.   That they do meet -- that all eight groups do meet

16 the limitation 1B, regardless of whether the data is

17 stored in the *iTunes* DB or in the sequel.   Both of them

18 are a way of storing the data that establishes a

19 sequence.

20 Q.   All right.   Is there anything else that you wanted

21 to explain about the "sequencing file" line of this

22 chart?

23 A.   No.

24 Q.   All right.   Turning now to the "processing means

25 for processors and sound cards" row of your chart which

924

 1 relates to element 1D, can you explain why that row is

 2 there?

 3 A.   Sure. For this row what I wanted to do as part of

 4 my analysis is using the documents I had gone through and

 5 identified the sound cards that were used in the devices

 6 and also the different processors.

 7   What was required by the limitations was

 8 really that there was a sound card there for converting

 9 the digital-audio to the analog that goes into your ears

10 and that there was a processor executing these software

11 algorithms.

12   One of the documents that was particularly

13 helpful with respect to this limitation and looking at

14 the sound cards and the processors was one of the sets of

15 questions that Apple had answered in response to asking

16 them about what was in the device.

17 Q.   And are you referring now to Apple's answer to

18 Interrogatory Number 11?

19 A.   Yes, sir.

20 Q.   All right. I'm now showing you Exhibit 6 --

21 Plaintiff's Exhibit 628A. Is that the document you're

22 referring to?

23 A.   Yes.

24 Q.   And is this written answers from Apple to

25 questions that Personal Audio asked?

925

1 A.   That's correct.

2 Q.   All right. How was this answer relevant to your

3 analysis of the processors and sound cards element?

4 A.   If you can blow this part up, what you'll see is

5 what Apple is saying is that (reading) the hardware

6 components of the accused products include, but are not

7 limited to, a disk drive or one or more flash chips, a

8 disk drive or flash controller, a FireWire and/or USB

9 interface, one or more processors, random access memory,

10 associated integrated circuits, capacitors, circuit

11 board, battery, charging circuitry, display, earbuds,

12 physical packaging, et cetera.

13   Part of what Apple said then is that all of

14 these hardware components were part of these 13 devices.

15 Q.   And when you looked at the chip specifications and

16 the bills of materials, were you able to verify that that

17 is, in fact, true?

18 A.   Yes. That's correct.

19 Q.   All right. Now, I want to focus for a second on

20 sound cards and processors. What do those look like

21 physically inside the iPod? Are those computer chips?

22 A.   Yes. They're computer chips, very small.

23 Q.   And why are there different kinds of computer

24 chips that are processors or the digital-to-audio

25 converters?

926

1 A.   Because as the device evolved over time and they

2 changed size, they would use different kinds of chips.

3 There could potentially be other reasons why Apple had

4 switched to different chips. The important part is even

5 though the chips were different, they still performed the

6 functions of the digital-to-audio version and the

7 processor still executed all of the software steps.

8 Q.   This is page 7 of Plaintiff's Exhibit 628A that we

9 just looked at. Did the following pages provide any

10 relevant information? I'm looking at page 8, for

11 example.

12 A.   Yes, they do. The page after this is then some

13 specific details for each of the 13 accused devices and

14 it includes a description, for example, at the top here

15 (indicating), the "iPod classic Generation 3," it

16 contains a PortalPlayer PP5002D System-on-Chip.

17   I made reference to that yesterday when we

18 were looking at the chip schematic. It said "PP5002D,"

19 and that was also provided as an answer from Apple. I

20 pointed out in the chip schematic and the bill of

21 materials this Wolfson WM8731L, the digital-audio

22 converter that was in that chip. And you can see on the

23 rest of this page that Apple has provided those

24 System-on-Chip and the digital-audio converter that was

25 used for Generation 1 through 6 of the classic, mini 1

927

1 through 2, and the nano 1 through 5.

2 Q.   Dr. Almeroth, just for clarity, this

3 System-on-Chip, how does that relate to the chips that

4 we're talking about, the processors and sound cards?

5 A.   That's the processor. That's the central

6 processor, the CPU.

7 Q.   And then looking at Plaintiff's Exhibit 628A, does

8 this list of which chips are in which model of iPod

9 continue on pages 9 and 10?

10 A.   Yes, sir, it does.

11 Q.   Dr. Almeroth, did you conclude that for element 1D

12 of the '076 patent, that all eight groups of the iPods

13 that you studied had a processor and either a sound card

14 with a digital-audio converter or the equivalent?

15 A.   Yes. That's correct.

16 Q.   Do all eight iPod groups that you studied meet

17 limitation 1D of the '076 patent claim 1?

18 A.   Yes.

19 Q.   All right. Dr. Almeroth, there is a bottom line

20 on this chart that says, "all other differences between

21 groups." Why is that there?

22 A.   The reason why I've added that row is because

23 clearly there are visible differences. The shapes of the

24 devices are the same -- are different. There's different

25 colors, different sizes. Some of the later devices have

928

1 a color screen versus a black-and-white screen. Some

2 have extra applications.

3   The point is, as I mentioned yesterday, none

4 of those extra things have an impact on my analysis

5 because they don't relate specifically to meeting these

6 limitations of claim 1. As I said yesterday, claim 1

7 doesn't say that the device has to be a certain size. It

8 doesn't say that it has to be a certain color.

9   In order to infringe this claim, what has to

10 be present is all of the limitations that are on that

11 board. If anything else is there, it doesn't matter.

12 And that goes back to this "comprising" word here in the

13 first part of claim 1. In order to infringe this claim,

14 you have to have at least these parts.

15 Q.   And, Dr. Almeroth, just to make sure I've asked

16 the right question, do all eight of these groups include

17 general purpose computers?

18 A.   Yes, they do.

19 Q.   Now, I'm just going to ask you the ultimate

20 question. I think we heard this, but let's make sure.

21   Did you reach a conclusion about whether all

22 eight groups of iPods that you studied infringe claim 1

23 of the '076 patent?

24 A.   Yes, I did.

25 Q.   What's your conclusion?

929

1 A.   My conclusion is that all the devices in those

2 eight groups and all 13 devices infringe claim 1 of the

3 '076 patent.

4 Q.   Now, Dr. Almeroth, you also studied some other

5 claims in this case; is that right?

6 A.   Yes, I did.

7 Q.   And I'd like to ask you to explain your opinions

8 and conclusions regarding the remaining six patent claims

9 now. Is there a way we can do that without repeating

10 things that you've already covered?

11 A.   Yes.

12 Q.   And how is that possible?

13 A.   What I've done is taken the different claims, the

14 seven different claims, and then using boards, organized

15 them in a way so where the parts overlap -- the claims

16 might use different language; but with respect to

17 identifying the evidence and reaching a conclusion about

18 a particular limitation or limitations across the

19 different claims, I used the same analysis and drew the

20 same conclusions.

21 Q.   Did you have a chart blown up on a board that

22 helps explain that analysis?

23 A.   Yes.

24 Q.   All right. Dr. Almeroth, I've now put up on the

25 stand Demonstrative Exhibit 1062. Is this part of the

930

1 chart that you were just discussing?

2 A.   Yes, it is.

3 Q.   And when you looked at the claims, did you notice

4 that some of the claims have similar language that

5 appears in different claims of the patents?

6 A.   That's correct. And let me explain a little bit

7 about this matrix. The first two columns that go

8 together, the first title says, "All Groups." And that's

9 because I'm describing here for the '076 patent and there

10 are the three claims of the '076 patent, claim 1,

11 claim 3, and claim 15. So, "all groups" mean all 13 of

12 these devices.

13 Q.   That's the eight groups of iPods?

14 A.   That's the eight groups of iPods. That's correct.

15 Q.   Can I ask you a clarifying question?

16 A.   Yes, sir.

17 Q.   So, this column that says '076 claim 1 to 3 here

18 (indicating), is the claim 1 part of this column related

19 to the '076 claim 1 that we covered previously?

20 A.   Yes, it is. And it's related because if you look

21 at the column, there is a number and letter -- or

22 sometimes just a number that's used. It's a little bit

23 small, but it's important to pay attention to -- that you

24 have the Number 1, 1A, 1B. Those are the first three on

25 this page in the left column. Those refer to 1, 1A, and

931

 1 1B of claim 1 of the '076 patent.

 2 Q.   So, is this (indicating) the same language we

 3 already looked at from the '076 patent claim 1?

 4 A.   Yes, it is.

 5 Q.   And is all of the language from the '076 patent

 6 claim 1 found down this column?

 7 A.   That's correct. The goal of this chart -- and it

 8 will be more than one page -- will be to have all of the

 9 limitations of all of the asserted claims running down

10 the columns.

11 Q.   All right. So, now can you explain why there is a

12 row across, for example, that says, "player" and starts

13 with element 1 of the '076 patent? What does it show

14 continuing across that row?

15 A.   Across the row is for different limitations that

16 have similar language; but using the same analysis, I was

17 able to reach the same conclusion.

18   So, let me pick the two as examples for the

19 "all groups" for claims 1 and 15 of the '076 patent.

20 We've talked about the language "a player for reproducing

21 selected audio program segments, comprising." Well,

22 claim 15 includes the same, "a programmed digital

23 computer for reproducing audio programs, said computer

24 comprising." The language is very similar, and the

25 analysis that I used to reach a conclusion with respect

932

1 to that part of claim 1 is the same analysis; and I

2 reached the same conclusion for limitation 14 that's

3 shown in the box next to it.

4   And then the same will be for all of the items

5 in that particular row.

6 Q.   Let me just clear something up. Why is there an

7 element 14 in claim 15 of the patent?

8 A.   Some of these claims include what are called

9 "dependent claims." And I think that part of that was in

10 the patent video. But, for example, claim 15 includes

11 all of the limitations of 15 and all of the limitations

12 of 14. What it will say is -- claim 15 will say, "all of

13 the limitations of 14 plus this additional limitation."

14   And because claim 15 was asserted, in order to

15 find infringement for claim 15, I have to find all of the

16 limitations of 14 and all of the limitations of 15 to

17 reach that conclusion.

18 Q.   All right. Now, I think you were about to explain

19 why one of these headings says "all groups" and the other

20 says "classic 6, nano 4, nano 5." Could you explain

21 that?

22 A.   Yes. The second two columns represent the

23 '178 patent; and there are four claims asserted there, 1,

24 6, 13, and 14. 13 will come later. But for these three

25 claims, those were only asserted against the classic 6,

933

1 the nano 4, and the nano 5, just those three devices, not

2 all of the groups.

3 Q.   Now, I've put up on the screen Demonstrative

4 Exhibit 1004. With reference to that exhibit, can you

5 explain why that we're only looking at classic 6, nano 4,

6 and nano 5 when we talk about the '178 patent?

7 A.   Yes, because the '178 patent issued in early 2009

8 and that only covers the devices the classic 6, the

9 nano 4, and the nano 5.

10 Q.   Okay. And, so, just to orient us on this graphic

11 or chart to make sure we know what it shows, what are

12 each of these bars?

13 A.   Those were the availability dates for -- the first

14 six are the classic, the next two are the mini, and then

15 the next five in the purple are the nano. The time moves

16 from left to right, and then you have the three dates.

17 The patent application was filed in '96. The '076 patent

18 issued at the beginning of 2001, and then you have the

19 '178 patent issued in the beginning of 2009.

20 Q.   All right. So, which iPods was Apple selling at

21 the time and after the '178 patent issued in 2009?

22 A.   The classic 6, the nano 4, and the nano 5.

23 Q.   And are those the three, then, that you analyzed

24 for infringement of the '178 patent?

25 A.   Yes. That's correct.

934

1 Q.   Had Apple stop selling all of the other kinds of

2 iPods before the '178 patent issued?

3 A.   Yes.

4 Q.   And then just to be clear, for the '076 patent,

5 why are we looking at all of the iPods?

6 A.   Because the '076 patent issued before the first

7 generation -- the first iPod ever went on sale.

8 Q.   So, was the '076 patent in force for the whole

9 time that any of these iPods in the eight groups were

10 being offered by Apple?

11 A.   That's correct. That's why we're looking at all

12 groups for the '076 patent.

13 Q.   All right. Dr. Almeroth, is there anything else

14 we need to explain about how this claim matrix works

15 before we start doing the analysis?

16 A.   I believe that we can start.

17 Q.   Okay. Let's start with the first row. I guess I

18 want to ask you a question. Do all of the claims that

19 you looked at all have the same set of limitations just

20 using different words?

21 A.   No. There's different limitations. What we'll

22 see is in some cases there will be boxes below this one.

23 There is another claim board related to this claim

24 matrix, and there won't be requirements. So, some of the

25 claims have additional requirements. Other claims don't

935

1 have requirements that we've talked about so far. And

2 the goal of this matrix is to try and make that clear.

3 Q.   Have you had a chart prepared to help explain that

4 concept?

5 A.   Yes. There's another chart that we can look at

6 that tries to summarize that.

7 Q.   All right. I've put up on the screen

8 Demonstrative Exhibit 1060. What does this show?

9 A.   That is that demonstrative. It shows that for

10 certain of the claims, that some of the limitations are

11 not required. And that's because --

12   MR. STEPHENS: Objection, your Honor.

13   THE COURT: What's your objection?

14   MR. STEPHENS: I thought that he was going to

15 add the limitation references 1A, 1B to these exhibits.

16   THE COURT: I thought so, too.

17   MR. HOLDREITH: I apologize, your Honor. I

18 thought they were going to be in here. I'll take it down

19 right now.

20   Let me circle back to this --

21   THE COURT: All right.

22   MR. HOLDREITH: -- after I can get those on

23 there.

24 BY MR. HOLDREITH:

25 Q.   All right. Dr. Almeroth, can you explain this?

936

1 Why would you have -- I'm going to come back to this

2 subject after I have a chance to mark that chart up so we

3 can explain it.

4 A.   Okay.

5 Q.   All right. Dr. Almeroth, let's start with the

6 first row that says "player." Can you explain your

7 analysis of the player element of the claims that you

8 looked at, please?

9 A.   Yes. We've spent a fair amount of time going

10 through limitation 1 for claim 1 of the '076 patent. The

11 language for the other claims are very similar to that

12 language for claim 1. My analysis was still the same

13 methodology, that I would go through and look at all of

14 the documents, I would confirm that the user guide would

15 say that it was a player. I had that same Apple

16 presentation that relates to these iPods that says that

17 they're players. That same analysis that I used for

18 claim 1 of the '076 patent is the same analysis that I

19 used for the other claims that have been asserted.

20 Q.   Now, for the '076 claim 1, is that the analysis we

21 already did over here (indicating) on the claim board for

22 element 1?

23 A.   That's correct.

24 Q.   So, we've already done this one. Do we check that

25 off?

 1 A.   Yes.

 2 Q.   And what is the case with the other three that

 3 require you to find an audio player?

 4 A.   Using the same analysis, I confirmed that all of

 5 the accused devices met those limitations as well, using

 6 that same methodology.

 7 Q.   So, can we check those off, too?

 8 A.   Yes.

 9 Q.   All right. Dr. Almeroth, just to be clear, the

10 claim numbering here, the elements -- 14, 14A of '076, 1

11 of '178, 14 of '178 -- does that follow the same

12 numbering that's in the juror notebooks in the patent

13 claims asserted?

14 A.   That's correct. The goal that I hope to have

15 accomplished after going through all of these matrix is

16 that all of the limitations for all of the claims will be

17 checked off across these different boards.

18 Q.   All right. Now let's turn to the "storing audio

19 programs" row. Can you remind us what that relates to

20 with reference to the '076 claim?

21 A.   Right. This was for limitation 1A that we've

22 talked about, the "means for storing a plurality of

23 program segments." That's the one that we've talked

24 about before. There's different language in some of the

25 other claims. And, in fact, there's -- the claims in the

938

1 '178 patent are a little bit different. Generally the

2 limitations include -- they combine together in a

3 limitation the idea of storing audio programs and a

4 sequencing file. That's why there is separate wording

5 there for the second set of columns.

6   But what's relevant here is the same analysis

7 that I used for storing the audio programs. And then for

8 the row below you have "receiving and storing a

9 sequencing file." The storing structures and the aspect

10 of the claims and the different limitations that relate

11 to storing audio programs I found in all of the devices.

12 So, all of the claim limitations that relate to storing

13 those audio programs are things that I found were

14 included in the devices.

15 Q.   Okay. Let me ask you this question: Did you line

16 up these claim elements because the claim elements are

17 exactly the same, or is it because the structure that you

18 found in the iPods that satisfies these is the same?

19 A.   It's I found the same structure. And the

20 limitations covered similar structure. You had to find

21 the same structure. But the language was a little bit

22 different in the claims.

23 Q.   All right. Now, again have we already done '076

24 claim 1A?

25 A.   Yes.

939

1 Q.   So, can we check that off on the matrix?

2 A.   Yes.

3 Q.   And, in fact, we've done all of the limitations of

4 '076 claim 1, right?

5 A.   Yes. That's correct.

6 Q.   Can I just go ahead and check those off?

7 A.   Yes.

8 Q.   All right. Reading across the row, which is

9 "storing audio programs," did you find limitation 14A of

10 the '076 patent, the (reading) mass storage device for

11 storing recorded audio program segments, the segments

12 having a beginning and an end? Is that present in all

13 eight iPods?

14 A.   Yes, it is. And that's the first part of

15 limitation 14A. There is a second part, and I broke it

16 up so that it would match more along the lines with what

17 we've already talked about in the '076. That way we can

18 go through and check off all the things that were

19 similar.

20 Q.   All right. So, is 14A done?

21 A.   Yes -- the first part, yes.

22 Q.   And reading across the row, we're now on the

23 '178 patent, element 1B?

24 A.   Yes. That's correct.

25 Q.   Why do we go straight from 1 to 1B? What happened

940

1 to 1A?

2 A.   1A will show up later. But trying to keep this

3 organized so that I can get as many of the similarities

4 knocked out as possible is the reason that I've organized

5 the rows and the columns this way.

6 Q.   All right. So, did you find, Dr. Almeroth, that

7 for '178 patent element 1B, that the element is met using

8 the same analysis that you've already described?

9 A.   Yes. That's correct.

10 Q.   Check that one off?

11 A.   Yes, please.

12 Q.   Now, on the final part of this row for "storing

13 audio programs," there's '178, elements 14A, 14B, 14C,

14 and 14D. Why have you grouped those all together?

15 A.   Because those four limitations relate to storing

16 audio programs. And the same analysis that I used for

17 claim 1 of the '076 patent limitation 1A relates to 14A,

18 14B, 14C, and 14D of the '178 patent. And that way I

19 don't have to go through all of the details of that

20 analysis. I used the same methodology and reached the

21 same conclusion about the classic 6, nano 4, and nano 5

22 with respect to those parts of the '178 patent claim 14.

23 Q.   Let's make sure we understand that. So, for 1A of

24 '076, you found that there's means for storing program

25 segments, the segments having a beginning and an end?

941

1 A.   That's correct.

2 Q.   And that was?

3 A.   That was the persistent mass storage and then the

4 high-speed RAM.

5 Q.   And then for '178 14A, you have to find a memory

6 that can store audio files, data including displayable

7 text about the audio files, and at least one separately

8 stored playback session sequence file which specifies an

9 order?

10 A.   That's correct.

11 Q.   Did you find all of these things that are required

12 by '178 limitations 14A, B, C, and D in the classic 6,

13 the nano 4, and the nano 5?

14 A.   That's correct.

15 Q.   Is it that same --

16 A.   It's the same persistent mass storage, including

17 the high-speed RAM.

18 Q.   Now, what's this about the displayable text in 14C

19 of the '178?

20 A.   That is the information like the album and the

21 title and the artist, the things that I had described

22 about what might be displayed on the screen.

23   It also includes the playlist. It's, in part,

24 the information stored in the sequencing file. And

25 that's one of the reasons why I described the *iTunes* DB

942

1 and the SQL files, because I wanted to make sure that I

2 had looked at those as it relates to some of these other

3 limitations.

4   THE COURT: All right. Counsel, we're going

5 to take a break.

6   Ladies and gentlemen, I'll ask you to be back

7 at quarter of.

8   (The jury exits the courtroom, 9:31 a.m.)

9   THE COURT: We'll be in recess until quarter

10 of.

11   (Recess, 9:32 a.m. to 9:45 a.m.)

12   (Open court, all parties present, jury not

13 present.)

14   MR. HOLDREITH: Your Honor, just to alert the

15 court, I wrote those limitation numbers in on here. I

16 didn't get an "A" in penmanship; so, we'll substitute a

17 typewritten version for the court.

18   THE COURT: You should have gotten Mr. Germer

19 to write them in there for you.

20   MR. HOLDREITH: I should have done that. But

21 we'll provide the court with a typewritten version this

22 afternoon.

23   THE COURT: Or just handwritten. It could be

24 hand on mine, too. It would just be helpful.

25   MR. HOLDREITH: Well, my people would kill me

943

 1| if I provided you a handwritten copy.

 2| THE COURT: If you make them, if you would

 3| please run off another copy for Ms. Mullendore --

 4| MR. HOLDREITH: Yes, sir.

 5| THE COURT: -- that would be real helpful.

 6| MR. HOLDREITH: I'm just going to jump back to

 7| that real quick and explain it, and then we'll finish up

 8| the chart.

 9| THE COURT: Okay.

10| (The jury enters the courtroom, 9:47 a.m.)

11| THE COURT: Go ahead, counsel.

12| MR. HOLDREITH: Thank you, your Honor.

13| BY MR. HOLDREITH:

14| Q.   All right. Dr. Almeroth, I want to come back to

15| this chart about the different terms. And during the

16| break -- my penmanship is not the best, but I wrote in

17| the claim limitation numbers along the side of this

18| chart.

19| I wanted to ask you with reference to --

20| THE COURT: And just for the record, that's

21| 1061 *[sic]* demonstrative?

22| MR. HOLDREITH: Just about to say that, your

23| Honor, yes, sir. It's 1060.

24| BY MR. HOLDREITH:

25| Q.   With reference to Chart 1060, can you explain, do

944

1 all of these patent claims you analyzed have the same set

2 of limitations?

3 A.   They do not.

4 Q.   And can you explain that with reference to this

5 chart? Just start by telling us what this heading across

6 the top is that says (reading) '076-1, 3, 15, et cetera.

7 A.   Those are the asserted claims, the seven asserted

8 claims, three in the '076 patent and then four in the

9 '178 patent.

10 Q.   All right. And what's down the column here where

11 it says "term," like "request" and it's handwritten "178,

12 1A, 14E"?

13 A.   That is a shorthand for part of the limitation in

14 '178, 1A and 14E, that deals with making a request to --

15 Q.   We haven't talked about that one yet?

16 A.   No, we have not.

17 Q.   All right. Let's use "IR link" as an example.

18 Have we talked about that already?

19 A.   Yes, we have. And what's important about this

20 chart is that the check marks indicate where it's

21 required, in what claims, and where it's not required.

22 Q.   So, for example, when you reviewed the claims,

23 which claims did you find have a requirement that there

24 be an IR link -- infrared link -- for connecting to a

25 local server computer connected to the Internet,

945

1 limitation 1B of '076?

2 A.   Right. That structure was identified in '076 1B

3 as being required or equivalent, and that was in claim 1

4 of the '076 and claim 3 of the '076.

5 Q.   Now, what about all these other claims, like

6 '076-15 and the claims of the '178 patent?

7 A.   For those claims there was not the means for

8 receiving that was identified; and, therefore, the

9 court's construction for means for receiving and storing,

10 it wasn't necessary to meet that limitation for some of

11 those other claims.

12   There will be other parts of the claim that

13 deal with the communication port, but it wasn't written

14 in the same way and therefore didn't have the requirement

15 of an IR link or equivalent.

16 Q.   So, does that mean when you analyzed the '076

17 claim 15 and the '178 patent, you didn't have to find an

18 IR link or the equivalent with respect to those claims?

19 A.   That's correct. It's getting a little

20 complicated. But when we get to the matrix then and we

21 talk about the means for receiving and storing for '076

22 claim 1, there will not be a corresponding box that says

23 that there had to be, for these other limitations in the

24 '076 and the '178 patent, a requirement for an IR link or

25 equivalent. And hopefully that will be clear in the

946

 1 matrix.

 2 Q.   All right. And, Dr. Almeroth, these patent claims

 3 having different combinations, does that relate to what

 4 you were talking about when you said the patent describes

 5 different ways to make the player?

 6 A.   That's correct. Different embodiments, different

 7 ways to make the player, different options, and then also

 8 bells and whistles that might be required by some claims

 9 but not by other claims. It becomes a complex problem of

10 mapping what's in the specification to what's required by

11 the claims -- well, it's only complicated in the sense

12 that when you write the claims, figuring out what to

13 actually include in a claim becomes very difficult.

14 Q.   And I don't want to talk about writing the claims,

15 but how about when you analyze the claims and you're

16 looking at the player? What difference does it make?

17 A.   Right. So, focusing on analyzing the claims, you

18 look specifically at the claim language and you look at

19 the court's construction and the claims will identify

20 which limitations are required.

21 Q.   And, so, for example, if you read down the column

22 for '178 claim 14, this way (indicating), this chart

23 would tell you you do have to find the request

24 limitation; is that right?

25 A.   That's correct.

947

1 Q.   But you don't have to find an IR link or the

2 equivalent; is that right?

3 A.   That's correct.

4 Q.   And you do have to find an algorithm that does or

5 is equivalent to scanning for the Selection_Record of the

6 appropriate LocType; is that right?

7 A.   That's correct.

8 Q.   But none of these other things that are on

9 Exhibit 1060. Is that how that analysis goes?

10 A.   That's correct.

11 Q.   All right. Dr. Almeroth, let's move right along

12 through this claim matrix which is Exhibit 1062. We

13 broke off talking about '178 limitations 14A, B, C, and D

14 which relate to storing audio programs and displayable

15 text and a sequencing file -- I just want to make sure.

16 I'm not sure if we finished talking about the displayable

17 text part in 14C. What is that?

18 A.   That's the -- for example, the album name, the

19 artist name. You saw in the demonstration yesterday that

20 it's included in the classic 3. We're not talking about

21 the classic 3 here but the other devices -- the

22 classic 6, nano 4, nano 5 -- on the screen very similar

23 to the classic 3 display text about the song that's

24 currently playing.

25 Q.   Did you find, Dr. Almeroth, that all of the

948

1 elements of '178 claim 14A, B, C, and D are present in

2 the classic 6, the nano 4, and the nano 5?

3 A.   Yes, I did.

4 Q.   Should I check those off?

5 A.   Yes, please.

6 Q.   Okay. The next row says "receiving and storing a

7 sequencing file," and there's a -- in the '076 claim 1,

8 is that element 1B?

9 A.   Yes, it is.

10 Q.   And we found that?

11 A.   Yes.

12 Q.   Can you remind us what it was?

13 A.   That means for receiving and storing, that was the

14 high-speed RAM and the persistent mass storage. That was

15 like the Toshiba hard drive that we had looked at in the

16 technical specification and the bill of materials and the

17 chip specification.

18 Q.   In the '076 claim 15, did you find, for the second

19 part of limitation 14A -- did those structures satisfy

20 '076 limitation 14A?

21 A.   Yes. That's correct.

22 Q.   Should we check that one off?

23 A.   Yes.

24 Q.   Now, across the row here it says "see box above"

25 for the '178 patent. What does that mean?

949

1 A.   What that means is we've already dealt with the

2 receiving and storing of a sequencing file. If you look

3 at the specific language for the '178 1B and then claim

4 14A, 14B, 14C, and 14D, it deals with receiving and

5 storing that sequencing file.

6   And that matches up with the other analysis I

7 did with respect to storing the sequencing file. So,

8 here is a little bit of overlap in the claim language for

9 this particular function that we've already covered and

10 what we checked off above.

11 Q.   Okay. So, we don't need to revisit these?

12 A.   That's correct.

13 Q.   Okay. Dr. Almeroth, the next item says "IR link

14 or equivalent." Where does that come into claim 1?

15 A.   That's -- that comes into claim 1 as part of 1B,

16 the means for receiving and storing.

17 Q.   Okay. So, that was part of the definition of this

18 1B here?

19 A.   Yes. It goes along with it. That's the IR link

20 or the equivalent structure that I identified as the USB

21 cable and connection.

22 Q.   All right. And for the IR link or equivalent, I

23 think as you just explained, do we have to find that for

24 any of the other claims?

25 A.   We do not.

950

1 Q.   All right. Since we don't have to find it, we can

2 check it off, right?

3 A.   That's correct.

4 Q.   Okay. Now, this continues on a few boards, right?

5 A.   It does.

6 Q.   So, we've got a little ways to march yet.

7 A.   Yes, sir.

8 Q.   Let's try and march through it.

9   Dr. Almeroth, now showing you Demonstrative

10 Exhibit 1063. What is shown here?

11 A.   Now you have what's being labeled in that middle

12 column as a "communications port, downloading audio

13 programs and a sequencing file" and then in brackets "in

14 response to a request by the player." That's the first

15 row that's here.

16 Q.   Okay. And why are there boxes here that have

17 cross-hatching like this (indicating) under the

18 '076 patent?

19 A.   Because this particular language of a

20 communications port isn't in any of the asserted claims

21 of the '076 patent. In fact, that was more about the

22 means for receiving and storing; and that's where I had

23 pointed to this custom communication port at the bottom.

24   The '178 patent now calls it a "communications

25 port"; so, it uses different language. Where before it

951

1   was a means for receiving, here it uses the language for

2   1A and then 14E.

3   Q.   Of the '178?

4   A.   Of the '178 patent.

5   And what's important to understand is the

6   claims across the two patents require something like

7   this. This port on the bottom of the iPod. It requires

8   either a means for receiving -- and, so, I've dealt with

9   that very specifically -- or it requires a communications

10 port. So, across the two patents, you still need a way

11 to get the music and the playlists onto the device; but

12 the '178 patent uses different language. And that's why

13 we dealt with the means for receiving and storing of the

14 '076 patent first. That was on the last board. And now

15 we can deal with the communications port language of the

16 '178 patent.

17 Q.   Dr. Almeroth, has the court provided a definition

18 of the "communications port" that you followed?

19 A.   Yes, it has.

20 Q.   All right. And in particular, I'm going to show

21 you Demonstrative Exhibit 1025. I think what I'm going

22 to do is put it up on the screen.

23 A.   Okay.

24 Q.   Is this the definition that you followed for a

25 communications port?

952

1 A.   Yes, it is.   That definition is "a port for

2 establishing a connection between the player and a

3 network."

4 Q.   And is this something that you found -- now, we

5 only have to talk about the classic 6 and the nano 4 and

6 the nano 5 here, right?

7 A.   Yes.   That's correct.

8 Q.   Is the "communications port for establishing a

9 data communications link for downloading" something you

10 found in the classic 6, the nano 4, and the nano 5?

11 A.   Yes.

12 Q.   And could you please explain that?

13 A.   Certainly.   First of all, you can look at the

14 devices -- this (indicating) is the classic 6.   This is

15 Defendant's Exhibit 102, and it has the communication

16 port on the bottom.   It's very similar to what exists in

17 the other devices.

18   This (indicating) is the classic 6 and then

19 also the nano 4 and 5 have the communication port on the

20 bottom as well and those are Defendant's Exhibit 108 and

21 Defendant's Exhibit 109.

22   I also used a number of documents and followed

23 the same methodology for finding that there was a

24 communications port.

25 Q.   All right.   Dr. Almeroth, did you consider the

953

1 user guide for the nano 5?

2 A.   Yes, I did.

3 Q.   And that's Plaintiff's Exhibit 107. Here's the

4 cover page. I'm going to ask you about page 13 of

5 Plaintiff's Exhibit 107. Does this provide any

6 information about whether the port is for downloading?

7 A.   Yes, it does. This is a similar figure to what

8 we've seen before. It's a little bit different; so, let

9 me walk through some of the language. It talks about

10 connecting the iPod nano to your computer. And it says

11 to (reading) plug in the included dock connector to the

12 USB cable into a high-powered USB 2.0 port on your

13 computer.

14   And then it shows the picture; and for the

15 nano 5, which is Defendant's Exhibit 109, it's showing

16 this custom communication port on the bottom of the

17 device.

18   And then below the figure it says, "By

19 default, *iTunes* syncs songs on iPod nano automatically

20 when you connect it to your computer." So, using that

21 information about what happens when you connect in this

22 cable, that informed my opinion about whether or not this

23 device had a communication port for downloading.

24 Q.   All right. Now, Dr. Almeroth, there is a

25 particular definition of "downloading" in this case. Did

954

1 you follow that definition?

2 A.   Yes, I did.

3 Q.   I'm now showing you on the screen Demonstrative

4 Exhibit 1028. Is this the definition for "downloading"

5 that you followed?

6 A.   Yes, it is.

7 Q.   Can you please explain?

8 A.   Sure. This is "Transferring a plurality of

9 separate digital compressed audio program files and a

10 separate sequencing file from the memory of one or more

11 separate computers to the memory of the player upon a

12 request by the player."

13 Q.   That sounds a lot like receiving a sequencing

14 file. Is it similar?

15 A.   It's similar language. It's the same function.

16   Now, what I want to be absolutely clear about

17 is this is talking about a characteristic of the

18 communication port again. This communication port has to

19 be able to receive the files that are transferred across

20 to this communication port.

21   Now, as part of the evidence that I used that

22 this port has this capability and is specifically

23 programmed is with respect to what happens when you

24 connect this port to a computer that's running *iTunes*.

25 And that goes back to the user guide figure that you had

955

 1 just shown.

 2   MR. STEPHENS: Objection, your Honor. I

 3 object to the testimony about a nonaccused product.

 4   THE COURT: Overruled.

 5 BY MR. HOLDREITH:

 6 Q.   All right. Dr. Almeroth, did part of your

 7 analysis focus in particular on downloading and on what

 8 it means for the player to make a request?

 9 A.   Yes, I did.

10 Q.   Did you have a definition from the court of

11 "request" that you considered?

12 A.   Yes, I did.

13 Q.   I'm going to put that up on the screen. This is

14 Demonstrative Exhibit 1028A. Is this the definition of

15 "request" that you followed?

16 A.   Yes, it is. And that is "A communication to

17 initiate the data transfer."

18 Q.   So, I'm going to ask you some questions about two

19 things now. One is: Did you find evidence that the iPod

20 classic 6, nano 4, and nano 5 do downloading?

21 A.   Yes.

22 Q.   That port is for downloading?

23 A.   Yes.

24 Q.   And did you find evidence that the port in the

25 classic 6, the nano 4, and the nano 5 is for downloading

956

1 either literally or equivalently upon a communication to

2 initiate the data transfer -- or request?

3 A.   Yes, I did.

4 Q.   Okay. So, we're going to talk about downloading;

5 and we're going to talk about request.

6 A.   Okay.

7 Q.   Let's start with an explanation, if you could

8 provide it, please, on what does the iPod -- we're

9 talking about the iPod side. What does the iPod do when

10 you connect it to a computer? That's the topic I'm going

11 to ask you about. Okay?

12 A.   Okay.

13 Q.   Now, when you plug an iPod into a computer, which

14 is the first device to communicate to the other? Does

15 the iPod go first, or does the computer go first?

16 A.   The iPod goes first.

17 Q.   And what is the communication from the iPod to the

18 computer?

19 A.   It's a connect signal that goes from the iPod to

20 the computer running *iTunes*.

21 Q.   Can you explain what you mean by "connect signal"?

22 What does that do?

23 A.   Well, the computer running *iTunes* is sitting doing

24 its thing; and when I physically take the cable and

25 connect it into this communication port, it sends a

957

1 signal across that says, "I'm here," that I'm connected

2 to this device, to the computer. And then based on that,

3 then the *iTunes* computer will do something.

4 Q.   Okay. So, what happens after you plug an iPod

5 into a computer and the iPod communicates the connect

6 signal?

7 A.   Once that happens, then the *iTunes* computer will

8 take that --

9   MR. STEPHENS: Objection, your Honor. He's

10 using a nonaccused product to prove infringement.

11   THE COURT: Overruled.

12 A.   The *iTunes* computer will perform the sync process.

13 And the sync process is described as "transferring over

14 songs and playlists."

15 Q.   Okay.

16 A.   And, again, the key here that we go back to is

17 that this device has a communications port and that this

18 communications port is capable of supporting the transfer

19 of files to this device. And as evidence of that, I

20 looked at what *iTunes* running on a computer will do when

21 you connect this device to that computer.

22 Q.   To be perfectly clear, are you saying it's the

23 *iTunes* computer or *iTunes* that makes the iPod infringe?

24 A.   No. No, absolutely not.

25 Q.   Now, what is your conclusion about whether the

958

1 connect signal from the iPod is equivalent to a request

2 for a download?

3 A.   It is equivalent to a request for a download. It

4 is equivalent to a communication to initiate the data

5 transfer.

6 Q.   Now, you're aware of a report that Apple's expert

7 Dr. Wicker submitted in this case?

8 A.   Yes, sir, I am.

9 Q.   And you know that Apple may come in here and say

10 that something called a "USB specification" says the

11 computer initiates the file transfer? Are you aware of

12 that?

13 A.   Yes, sir, I am.

14 Q.   And did you study and consider that part of the

15 USB specification?

16 A.   I did. I looked at the USB specification as part

17 of my analysis.

18 Q.   Does the computer, in fact, initiate the file

19 transfer?

20 A.   Yes, it does.

21 Q.   Does it do that in response to a communication

22 from the iPod?

23 A.   Yes, it does. But the important thing to consider

24 here is what is the first thing that happens. And that's

25 when you plug in the cable and the connection signal goes

959

1 across. That is the first thing. That is the request.

2 That is the thing that tells the *iTunes* computer on the

3 other side to start downloading.

4   Anything that happens after that -- the

5 transfer of the files, the transfer of the playlists --

6 all happen in response to that connect signal that comes

7 from this device.

8 Q.   All right. And how did that affect your analysis

9 with reference to the definition of "request" here on

10 Exhibit 1028A that says "A communication to initiate the

11 data transfer"?

12 A.   That that request -- it's equivalent to what's

13 required by the court's claim construction, that this

14 configuration port and the software inside are

15 specifically configured to send the equivalent of that

16 request. It causes the communication to initiate the

17 data transfer.

18 Q.   Did you find source code and programming inside

19 the iPod that demonstrates to you that the iPod is

20 programmed to receive information from a separate

21 computer through that port?

22   MR. STEPHENS: Objection, your Honor. There

23 is no opinion of that type in his report.

24   THE COURT: Overruled.

25 A.   Yes, I did.

960

 1 BY MR. HOLDREITH:

 2 Q.   All right. Dr. Almeroth, now, you mentioned the

 3 iPod user guide that we just looked at. How does this

 4 relate to the things you just explained?

 5 A.   It describes in detail the process that I've just

 6 provided an outline of. You have the figure --

 7 Q.   I'm sorry. I just want to say this is Plaintiff's

 8 Exhibit 107 at page 13.

 9   Can you explain how this applies?

10 A.   Right. And I'll just start at the title again.

11 It says to connect iPod nano to your computer, and it

12 describes that process. But the most important part of

13 this is what's right below the figure. It says, "By

14 default, *iTunes* syncs songs on iPod nano automatically

15 when you connect it to your computer."

16   So, that describes in response to --

17   MR. STEPHENS: Objection, your Honor.

18   THE COURT: Excuse me. Tell me again what

19 page this is.

20   MR. HOLDREITH: Yes, sir, your Honor. This is

21 Plaintiff's Exhibit 107, the nano user guide, at page 13.

22   THE COURT: 13.

23   All right. Mr. Stephens, go ahead.

24   MR. STEPHENS: Yeah. If I may just have a

25 continuing objection to the use of the nonaccused product

961

 1 to prove infringement?

 2   THE COURT: Okay. I think you need to state

 3 the objections as they come up.

 4   MR. STEPHENS: Okay.

 5   THE COURT: I'm not, as I've indicated before,

 6 understanding what you're meaning by that objection. In

 7 other words, he keeps saying over and over again that's

 8 not what he is saying.

 9   Now, I understand there may be some legal

10 arguments later as to what's there; and your expert may

11 have a different opinion. But that's different than

12 objecting to him saying that the *iTunes* program on the

13 computer running *iTunes* is infringing. I haven't heard

14 him say that; although, that seems to be your objection

15 each time.

16   MR. STEPHENS: Well, your Honor, in response

17 to our Motion *in Limine* Number 1, you said that

18 Dr. Almeroth should not imply that the accused products

19 infringe because of *iTunes*; yet, that's exactly what he's

20 doing.

21   THE COURT: Well, he's said that over and over

22 again. It seems to be an inference that you're drawing,

23 and maybe that's your position. But that's different

24 than -- and I think counsel -- I mean, because of your

25 objections, counsel has been trying to make that very

962

 1 clear. If you think it needs to continue to be objected

 2 to to preserve your record, go ahead; but I think that's

 3 pretty clear that's not his opinion.

 4   Now, I'm not saying that doesn't mean there

 5 won't be an argument later on as the evidence is examined

 6 through your expert and your legal arguments as to what

 7 the effect of all this is.

 8   MR. STEPHENS: I understand, your Honor.

 9   THE COURT: But I have not heard him say yet

10 nor imply yet that that's -- it's infringing because of

11 the *iTunes*.

12   MR. STEPHENS: Okay, your Honor. Well, I'll

13 object as necessary then. Thank you.

14   THE COURT: Okay.

15 BY MR. HOLDREITH:

16 Q.   All right, Dr. Almeroth. So, I said I was going

17 to ask you about the request part.

18 A.   Yes.

19 Q.   Now I'm going to ask you about the downloading

20 part.

21 A.   Yes.

22 Q.   Did you consider whether this "sync" is

23 downloading?

24 A.   Yes, I did.

25 Q.   And what did you conclude?

963

 1 A.   I concluded that, in fact, it was downloading,

 2 that the synchronization process of transferring the

 3 songs plus the playlists over is downloading. And to

 4 make it clear again, it's about a device with a custom

 5 communication port that's capable and programmed to

 6 receive downloaded information.

 7 Q.   Did you find any documents where Apple describes

 8 the sync process as "downloading"?

 9 A.   In fact, I did. The sync process is -- before the

10 Apple used the term "sync" for synchronization, they

11 described this exact process as "downloading."

12 Q.   For example, I'm going to show you the iPod nano 1

13 features guide. This is Plaintiff's Exhibit 113. And if

14 we look at page 20, did this provide any information

15 relevant to your analysis?

16 A.   Yes, it does.

17 Q.   And what is that?

18 A.   If you'll blow up the portion entitled

19 "Downloading Music and Podcasts to iPod nano," it says --

20 first of all, in the title it says "Downloading Music and

21 Podcasts to iPod nano." "After your music is imported

22 and organized in *iTunes*, you can easily download it to

23 iPod nano."

24   "To set how music is downloaded from your

25 computer to your iPod nano, you connect your iPod nano to

964

1 your computer and then use the controls in *iTunes* to

2 change iPod nano settings."

3   The key here is this same synchronization

4 process, where you take the cable and connect it into

5 this custom communication port that sends the request

6 over, causes *iTunes* to download. And it's the custom

7 communication port that has the capability and is

8 programmed to receive those downloaded songs and

9 playlists.

10 Q.   Now, when Apple went from describing this process

11 as "downloading" in the iPod nano 1 manual to describing

12 it as "syncing" in the nano 5 guide, did they change

13 what's actually happening in terms of the iPod sending a

14 communication to initiate a connection?

15 A.   No. The process didn't change. Just the name

16 changed.

17   And what's illuminating then about this

18 document is that they described the same process as

19 synchronization, as downloading.

20 Q.   All right. And did you find other documents where

21 Apple describes this process as "downloading"?

22 A.   Yes, sir, I did.

23 Q.   I'm going to show you Plaintiff's Exhibit 377. Is

24 this a document that you considered?

25 A.   Yes, it is.

965

1 Q.   What is this?

2 A.   This is a press release; and it's dated

3 October 23, 2001. This is the press release announcing

4 the very first iPod. And from the very beginning iPods

5 had the ability to receive songs and playlists.

6   And what's important about this press release

7 is from the very beginning, Apple was describing the

8 process of synchronization as "downloading."

9 Q.   Where do you see that?

10 A.   The last three lines. It talks about a "portable

11 music device design with Apple's legendary ease of use

12 and Auto-Sync, which automatically downloads all your

13 *iTunes* songs and playlists into your iPod, and keeps them

14 up to date."

15 Q.   When you did your analysis, Dr. Almeroth, did you

16 conclude that, in fact, the classic 6, the nano 4, and

17 the nano 5 have a communications port for establishing a

18 connection for downloading a plurality of digital-audio

19 programs and also a sequencing file?

20 A.   Yes, sir, I did.

21 Q.   Did you conclude that the classic 6, the nano 4,

22 and the nano 5 meet all of the requirements of '178

23 elements 1A and 14E?

24 A.   Yes. That's correct.

25 Q.   Now, can I check this one off?

966

1 A.   Yes, you can.

2 Q.   Let me ask you about 14E. It has a reference here

3 to being (reading) selected by said listener from a

4 library of audio program files available from one or more

5 server computers.

6 A.   Yes, sir.

7 Q.   Did you find the iPod can, in fact, through its

8 communications port, receive songs that were selected by

9 a user from a library?

10 A.   That's correct.

11 Q.   Can I check that one off?

12 A.   Yes.

13 Q.   Okay. That brings us to the next -- and we don't

14 have to look at this for '076, right, because it's not

15 required?

16 A.   That's correct.

17 Q.   Can I just put checks here to make sure we know we

18 don't need to do these?

19 A.   Yes.

20 Q.   Okay. Now we get to "selected by or on behalf of

21 the listener to produce a personalized playback session"

22 in element 14E of the '178 patent. What is that about?

23 A.   What that's referring to is that the songs on the

24 playlist are selected by or on behalf of the listener,

25 that the songs that are on the device -- and the

967

1 playlists include songs that are selected on the behalf

2 of the user.

3 Q.   And did you find that the classic 6 and the nano 4

4 and the nano 5 can receive and store playlists with songs

5 selected by or on behalf of the user?

6 A.   Yes, sir, I did.

7 Q.   And is that structure in the iPod itself?

8 A.   Yes, it is.

9 Q.   Could you explain that just very briefly?

10 A.   Certainly. By using the devices and also by

11 looking at the source code, I could determine that this

12 device had the ability to play playlists of a certain

13 type.

14   Now, as evidence for that, I looked at the

15 fact that this device could receive from outside of the

16 device playlists that had been constructed on or -- by or

17 on behalf of the user. And the evidence that I used to

18 determine that this device could do that was the fact

19 that in *iTunes* you could create those playlists.

20   When you go through the sync process and that

21 data is downloaded and transferred over to the device,

22 that device then has the capability to play those

23 playlists; and that's what is required by claim '178 14F.

24 Q.   Did you find, Dr. Almeroth, that the classic 6,

25 the nano 4, and the nano 5 meet everything required by

968

 1 limitation 14F of the '178 patent?

 2 A.   Yes.

 3 Q.   Can we check that one off?

 4 A.   Yes, please.

 5 Q.   Are you ready for the next board?

 6 A.   Yes, sir.

 7 Q.   Dr. Almeroth, I'm going to show you Demonstrative

 8 Exhibit 1064. Is that the next board in line?

 9 A.   Yes, it is.

10 Q.   All right. The first row here says "accepting a

11 command." Is this one we've already seen?

12 A.   Yes, it is. Where we've seen this before is claim

13 element 1C from claim 1 of the '076 patent.

14 Q.   What does that relate to?

15 A.   That is "means for accepting control commands from

16 a user of said player." That's the keyboard buttons on

17 the device.

18 Q.   Did you find that all of the devices in the eight

19 groups have those buttons?

20 A.   Yes, sir.

21 Q.   Does that meet limitation -- let's see. We

22 already did 1C of '076, right?

23 A.   Yes.

24 Q.   Does that also meet limitation 14B of the '076?

25 A.   Yes, it does.

969

1 Q.   Is there anything different about how the buttons

2 meet limitations 1D and 14G of the '178 patent?

3 A.   No. The language is a little bit different, but

4 the limitations are covered by the same buttons on these

5 devices.

6 Q.   Okay. Should we check those off?

7 A.   Yes, please.

8 Q.   All right, Dr. Almeroth. That brings us to

9 "continuously reproducing." Now, is this something we've

10 also seen before?

11 A.   Yes, it is, in limitation 1D of the '076 patent.

12 Q.   I just want to make sure I didn't miss -- okay.

13 We're going to get to it.

14   So, this is similar to what we already covered

15 in 1D of the '176 -- that's -- the '076? That's what you

16 just said?

17 A.   Yes.

18 Q.   All right. And is this one of those algorithm

19 limitations?

20 A.   Yes, it is. It included some hardware and also

21 some software. That was the sound card, the general

22 purpose computer, and also had the headphones; and then

23 there was the software algorithm as well.

24 Q.   Okay. Is there anything different about the

25 algorithms that we need to discuss with reference to

970

1 limitations 14D of the '076, first part of 1E of the

2 '178, and 14I of the '178?

3 A.   No.   The same parts that I used in my analysis and

4 the same parts I referenced with respect to 1D of the

5 '076 patent were the same things that I used for 14D of

6 the '076; 1E, the first part, of the '178 patent; and

7 then 14I of the '178 patent.

8 Q.   Now, the code changed a little bit over time,

9 right?

10 A.   The code did change a little bit over time; but as

11 we showed through the demonstration of the four different

12 versions of the code, book-ended from the very beginning

13 to the very end with two in the middle, the code was

14 very, very similar.

15 Q.   All right.   So, did you find, Dr. Almeroth, that

16 all eight groups meet limitations 1D and 14D of the '076,

17 all eight groups of iPods?

18 A.   Yes.

19 Q.   Check those off?

20 A.   Yes.

21 Q.   Did you find that the classic 6, the nano 4, and

22 the nano 5 meet the first part of limitation 1E of the

23 '178 patent and limitation 14I of the '178 patent?

24 A.   Yes.   That's correct.

25 Q.   Should I check those off?

971

1 A.   Yes.

2 Q.   Okay. Dr. Almeroth, the next line is "speaker or

3 headphones." There's cross-hatching under the '076

4 patent. Have we talked about this one before?

5 A.   We did. We talked about it as part of

6 continuously reproducing. Because we've already checked

7 off 1D, there isn't a separate limitation. But I did

8 discuss where there are speaker or headphones as it's

9 required in the '076 claims 1 and 3.

10 Q.   All right. And in '076 claim limitation 14C, it

11 says "output means for producing audible sounds in

12 response to analog audio signals." What does that have

13 to do with a speaker or headphones?

14 A.   That is exactly a speaker or headphone. That's

15 the language used by 14D to indicate a speaker or a

16 headphone.

17 Q.   Did you find that all eight iPod groups come with

18 a speaker or headphones?

19 A.   Yes, I did.

20 Q.   Did you find that the speaker or headphones are

21 intended to be assembled with the iPod?

22 A.   That's correct.

23 Q.   How about limitation 1C of the '178 patent? Is

24 that the same thing?

25 A.   Yes, it is. It mentions the same "speaker or

972

1 headset for reproducing said audio program files."

2 Q.   Did you find that limitation 14C of the -- excuse

3 me.   Did you find limitation 1C of the '178 patent is

4 found in the classic 6, the nano 4, and the nano 5?

5 A.   Yes.   That's correct.

6 Q.   And just to make this go just a tiny bit quicker,

7 when I come to cross-hatching, can I just check that off?

8 A.   Yes.   It's not a separate limitation, and we've

9 already dealt with it.

10 Q.   All right.   The next box we come to is

11 limitation 1E of the '076 patent, "detecting a skip

12 command."   Have we already covered that one?

13 A.   Yes, we have.

14 Q.   Is that found in any of the other claims?

15 A.   Not specifically as a separate limitation.

16 Q.   All right.   So, I'll march right on through there.

17   Now, the next line says "a processor"; and it

18 only lists some text for '178 patent 14J.

19 A.   That's correct.

20 Q.   Will you explain that, please?

21 A.   Certainly.   Claim 14 of the '178 patent has a

22 limitation that specifically calls for a processor.   The

23 other patent -- the other claims -- for example, the '076

24 included the processor, for example, as part of

25 continuously reproducing.   So, when I looked at

973

1 continuously reproducing and found a processor as part of

2 a general purpose computer and then we looked at the

3 interrogatory that showed that there was a processor, the

4 system on a chip, that was the PortalPlayer and then

5 evolved to a different device, that showed for each of

6 the devices that there was, in fact, a processor.

7 Q.   All right.   Did you find for the classic 6, the

8 nano 4, and the nano 5 that limitation 14J requiring a

9 processor was met?

10 A.   Yes, I did.

11 Q.   Check that one off?

12 A.   Yes, please.

13 Q.   Great.

14   My easel is getting a little full; so, I'm

15 just going to take these down.

16   All right.   Ready for the next board?

17 A.   Yes, sir.

18 Q.   Dr. Almeroth, I'm now showing you Demonstrative

19 Exhibit 1065.   Is that the next board?

20 A.   Yes, it is.

21 Q.   All right, Dr. Almeroth.   Now, it looks like the

22 top row, "responding to the skip command" for the '076

23 says 1F.   Is that one we've already seen?

24 A.   It is.

25 Q.   All right.   And did you find that that -- similar

974

1 algorithms are required for '076 14E as well as dependent

2 claim -- for '178 dependent claim 4 and limitation 14L?

3 A.   Yes.   That's where the requirement is for the

4 responding to the skip command.

5 Q.   If anybody is following along, the list of claim

6 limitations on the patent claims asserted by plaintiff,

7 why are we talking about dependent claim 4?

8 A.   We're talking about dependent claim 4 because the

9 asserted claim is claim 6.

10   Claim 6 requires all of the steps of 6, all of

11 the steps of 5, all of the steps of 4, all of the steps

12 of 3, all of the steps of 2, and all of the steps of 1.

13 There are many limitations, and that's why we're going

14 through all of these charts.   But the reason why we're

15 covering dependent claim 4 -- and you'll also notice in

16 brackets -- it's a little bit small -- that this also

17 covers 4A.   That is required -- it's a required

18 limitation for claim 6 of the '178 patent.

19 Q.   So, to get to 6, we've got to go through 4.

20 A.   That's correct.

21 Q.   All right.   Now, Dr. Almeroth, did you previously

22 show the algorithm for this "responding to the skip

23 command "when we talked about limitation 1F of the '076?

24 A.   Yes, we did.

25 Q.   And are the algorithms you found that satisfy the

975

1 other limitations in this row similar?

2 A.   Yes. That's correct.

3 Q.   Anything different to cover or explain on this

4 part?

5 A.   No. In fact, this was the part where we put up

6 the four quadrants with the four for PlayerNext and then

7 skip -- sorry. Let me get the wording right. It was

8 PlayerNext for the classic 3 and then the

9 NextTrackInternal for the nano 2, the nano 3, and the

10 nano 5. That was used in this algorithm.

11 Q.   And that's where we showed the four different

12 source code excerpts from Plaintiff's Exhibit 712, 713,

13 and 714 and 715?

14 A.   That's correct.

15 Q.   All right. Can we check these off?

16 A.   Yes, we can.

17 Q.   Did you find that all eight groups meet

18 limitations 1F and 14E of '076?

19 A.   I did.

20 Q.   Did you find that classic 6, nano 4, and nano 5

21 meet '178 limitations for dependent claim 4 and 4A?

22 A.   Yes.

23 Q.   And for limitation 14L?

24 A.   Yes.

25 Q.   All right. Dr. Almeroth, now we've got to the row

976

1 that says "detecting a back command." For the '076,

2 we're now to dependent claim 2.

3 A.   That's correct.

4 Q.   Have we covered that yet?

5 A.   We haven't.

6 Q.   Do we need to talk about that one?

7 A.   Yes, we do.

8 Q.   All right. Let's do that.

9   Is "detecting a back command" one of these

10 algorithms again?

11 A.   Yes, it is.

12 Q.   And is it similar to any of the algorithms we've

13 looked at already?

14 A.   Yes, it is.

15 Q.   Which one?

16 A.   That is the "detecting a skip command."

17   The same kind of code that you use once you've

18 entered one of these buttons to determine which of the

19 buttons you've pressed, that's part of this "detecting"

20 limitation.

21   So, whether you're detecting the skip command

22 or whether you're detecting the back command, the code is

23 very similar.

24 Q.   And is this one of the ones that, as far as you

25 know, there's not a dispute about this element?

977

1 A.   That's correct.

2 Q.   All right. Did you find in all eight groups of

3 the iPods that they meet the limitations of dependent

4 claim 2 of the '076 patent including 2 and 2A?

5 A.   That's correct.

6 Q.   Can I check that one off?

7 A.   Yes, please.

8 Q.   All right. We've now gotten to "responding to a

9 back command." And for the '076 patent, we're now on 2B;

10 is that right?

11 A.   That's correct.

12 Q.   And is that means responsive to the back command?

13 A.   That's correct.

14   And to be clear, this is for limitation 2 for

15 claim 2. Claim 2 is required by claim 3. Claim 3 is one

16 of those that requires all of 3, all of 2, and all of 1.

17 Q.   All right. Is this another algorithm claim?

18 A.   Yes, it is.

19 Q.   Now, we did responding to the skip forward

20 command, right?

21 A.   We did.

22 Q.   And is this something sort of similar but it's

23 responding to the "detecting a back command"?

24 A.   That's correct.

25 Q.   All right. Dr. Almeroth, now, did you find source

978

1 code -- let me ask you first: Was there a definition

2 from the court on what the corresponding structure has to

3 be for this one?

4 A.   There was.

5 Q.   I'm just going to show that, Demonstrative

6 Exhibit 1041. Is this the definition that you followed

7 for "responding to a back command"?

8 A.   Yes, it is.

9 Q.   Now, to be clear, Dr. Almeroth, did you look at

10 separate definitions from the court for these "responding

11 to a back command" limitations in each patent?

12 A.   That's correct. Because the language was slightly

13 different for the different claims, the court gave

14 slightly different language. The algorithm, I believe,

15 was the same; but in each case I followed the court's

16 claim constructions exactly for each of the corresponding

17 claims.

18 Q.   Across those different definitions, was the

19 algorithm described very similar in the different

20 definitions?

21 A.   Yes, it was.

22 Q.   All right. Now, can you just explain briefly for

23 the user what does this algorithm mean?

24 A.   Right. This is when you hit the "back" button and

25 you're after this threshold value, you're a good ways

979

1 into the song, that you just go back to the beginning of

2 the song. This isn't the double back. That will come

3 later. This is for just pressing one of the "back"

4 buttons and going to the beginning of the song.

5 Q.   Did you find in the various versions of the source

6 code you looked at an algorithm which is identical or

7 equivalent to the ones stated in the court's claim

8 constructions?

9 A.   Yes, I did.

10 Q.   And do we need to look at any source code to

11 understand that?

12 A.   I think it would be helpful, yes.

13 Q.   All right. Where should we go?

14 A.   What I'd like to do is just look at the nano 5

15 source code and that was Plaintiff's Exhibit 712 and this

16 is on page 30.

17 Q.   All right. So, I'm now displaying on the screen

18 Plaintiff's Exhibit 712, page 30. Are we in the right

19 place?

20 A.   Yes, we are.

21 Q.   What are we looking at?

22 A.   We're looking here (indicating) at the function

23 called "previous track."

24 Q.   Okay. Should I go ahead and blow that up?

25 A.   Yes, from here (indicating) maybe down to right

1 about there (indicating).

2   That's good.

3 Q.   What is this?

4 A.   Okay. So, this is part of -- remember nano 5 is

5 the TPodMediaPlayer, and the source code is called

6 "previous track." And what we're interested in is where

7 in this source code does it look to determine whether or

8 not it should skip to the beginning of the song, to go

9 back to the beginning of the song in response to the

10 "back" button.

11   And it turns out that that line that's

12 relevant is right here (indicating) at line 1846.

13 Q.   What does this tell you?

14 A.   What this says is if the elapsed time in

15 milliseconds is greater than the start time of the song

16 plus 3,000 -- a thousand milliseconds and one second; so,

17 3,000 is three seconds. If the elapsed time -- if more

18 than three seconds has played, you want to go back to the

19 begin of that song.

20   And, so, it will say "SelectTrack" and it will

21 use the current index value and it will simply restart

22 the current track.

23 Q.   And the index value here, is that referring to a

24 place in the playlist like first song, second song, third

25 song?

1 A.   That's correct. That's the index value.

2 Q.   Okay. And the current index here is what?

3 A.   The current -- because you're not changing songs

4 in the playlist, you leave the same index value; and that

5 would be whatever song that's currently playing, you

6 know, some number representing the position in the

7 song -- in the playlist.

8 Q.   All right. Is there anything else you wanted to

9 explain about this source code?

10 A.   No. That's it.

11 Q.   Did you find similar algorithms in the other

12 versions of the source code you looked at?

13 A.   Yes, I did.

14 Q.   Okay. Dr. Almeroth, you mentioned this time

15 interval, the three seconds. How does that relate to

16 these claim limitations?

17 A.   It relates to these claim limitations because if

18 you're after that time interval, you go back to the

19 beginning of the song. And it uses that time threshold

20 to make that determination, that if you're after the

21 threshold, you go to the beginning of the song.

22 Q.   All right. Will we be coming to something that

23 you do something different if you're within that first

24 three seconds?

25 A.   That's correct. And the easy way to get there is

982

1 if you hit the double back command or if there is a check

2 that says if you're less than that threshold what you're

3 supposed to do.

4 Q.   And does the claim express that -- do some of

5 these limitations express that as either a single press

6 of the "back" button or as a time interval before you

7 press the "back" button?

8 A.   Yes, it does. The language again is a little bit

9 different, but it's pointing to that same algorithm.

10 Q.   This talks about "continuing the reproduction at

11 the beginning of said currently playing program." Did

12 you find that the iPod code does that?

13 A.   Yes, it does.

14 Q.   Now, have you now explained how the limitations

15 for the '076 2B and 14F are met by all eight groups of

16 iPods?

17 A.   Yes. That's correct.

18 Q.   And should I check those off?

19 A.   Yes, please.

20 Q.   And have you also -- did you conclude that for the

21 '178 patent, limitations dependent claim 5 and 5A and 14M

22 are met by the classic 6, the nano 4, and the nano 5?

23 A.   That's correct. That was my conclusion.

24 Q.   Should I check those off?

25 A.   Yes, please.

983

1 Q.   Okay. Do we still have a couple boards to go?

2 A.   We do. We do. We're getting closer.

3 Q.   Dr. Almeroth, I'm going to show you Demonstrative

4 Exhibit 1066. Is that the next board?

5 A.   Yes, it is.

6 Q.   Okay. The top row talks about the double back

7 command.

8 A.   That's correct.

9 Q.   Is that one we've seen before?

10 A.   No, it's not.

11 Q.   What does this mean from the user's point of view?

12 A.   We talked about the single back. Now we're going

13 to talk about the double back. Tap tap (demonstrating).

14 You go to the beginning of the song with the first tap;

15 you go to the beginning of the previous song in the

16 playlist with the second back.

17 Q.   All right. Does this also have something to do

18 with that three seconds?

19 A.   Yes, it does. In fact, that three seconds --

20 you'll evaluate that threshold. If it's greater than

21 three seconds, you're far enough into the song to go back

22 to the beginning. What we didn't talk about in the code

23 yet is if you're less than the three seconds what

24 happens.

25 Q.   Now, is this one we need to look at source code

984

1 again for?

2 A.   Yes. Yes.

3 Q.   All right. What do we need to look at?

4 A.   Essentially the same part of the code. I believe

5 you might already have it up. This is Plaintiff's

6 Exhibit 712 on page 30.

7 Q.   All right. And what do we look at here?

8 A.   Let's blow up the same function, just to cite the

9 line number and explain that we've gone through this

10 before. This is a "previous track" at line 1838. This

11 is "previous track." This is the portion at line 1846

12 where it tests to see whether or not you're greater than

13 the three-second threshold or whether you're less than

14 the three-second threshold.

15   Now, as I just discussed, if you're greater

16 than the three-second threshold, you then do this return

17 "true." You've selected the CurrentIndex. You've

18 restarted the track. And then you "return true," which

19 means stop executing this function. There was no error.

20 Go back to the function that's called "previous track."

21   Now, if it turns out that you were less than

22 the three-second threshold, now you have to find out what

23 the next song is in the playlist. And by "next song," I

24 mean the previous song in the playlist because you're

25 doing the rewind.

985

1   And the place that I want to look at is right

2   here (indicating) at line 1856 called

3   "PreviousTrackInternal." And what PreviousTrackInternal

4   does is it will determine what the previous track is in

5   the playlist.

6   Okay. And I wasn't planning on going through

7   PreviousTrackInternal. It's very similar to

8   NextTrackInternal, that it goes through a loop --

9   actually let me -- do show it because I think it's

10 important.

11   If we go then to page 33 of this same

12 Plaintiff's Exhibit 712.

13 Q.   Okay. There we are at Plaintiff's Exhibit 712,

14 page 33.

15 A.   And I think we have to go to the page previous to

16 see the name of the function.

17 Q.   Okay. So, I'll go to page 32.

18 A.   That's right. It's right there at the bottom,

19 "PreviousTrackInternal"; and that's at line 3192, is

20 where this PreviousTrackInternal starts.

21   So, now to see the main interesting part of

22 this function, can you please go to the next page, which

23 is Plaintiff's Exhibit 712, 33?

24 Q.   And what should we look at here?

25 A.   Okay. Now what I want to focus on is right there

986

1 in the middle (indicating), right about right here

2 (indicating), I think.

3 Q.   I'll try and capture those line numbers. I'm

4 sorry. Here we go.

5   About like that (indicating)?

6 A.   Yes. Let's see if that's right.

7   Okay. What you have here is a "while (true)"

8 statement. And you have "Find the previous song in the

9 playlist that plays."

10   And then you have "nextTrackIndex--."

11   This is a very similar structure to what we

12 saw with the "skip" button but now instead of moving

13 forward to the playlist to find the next playlist song

14 that plays, now we move backwards through the playlist.

15   And in the nano 5 code that's in Exhibit 712,

16 you include this nextTrackIndex--. For skip we saw "++."

17 Here it's "--."

18   You can think about skip and back, double

19 back, as being very similar but almost mirror opposites.

20 One moves forward using "++." One moves backward using

21 "--."

22 Q.   All right. Anything else to explain about this

23 part of the code, Dr. Almeroth?

24 A.   No. I think that's it.

25 Q.   Okay. Now, for "responding to a double back

987

1 command," did you find algorithms in all eight groups of

2 iPods that meet the limitations of dependent claim 3 of

3 the '076 patent including 3A and dependent claim 15 of

4 the '076 patent including limitation 15A?

5 A.   Yes, I did.

6 Q.   Check those off?

7 A.   Yes, please.

8 Q.   Did you likewise find everything required by '178

9 dependent claim 6 including 6A and limitation 14N in the

10 classic 6, the nano 4, and the nano 5?

11 A.   Yes, I did.

12 Q.   Check those off?

13 A.   Yes, please.

14 Q.   The "go" command, is this the last function?

15 A.   Yes.

16 Q.   Not quite done, are we?

17 A.   No, sir. And one of the interesting parts of my

18 analysis, when I showed the four quadrants for the skip,

19 I can show the same four quadrants for back.

20 Q.   Shall we do that?

21 A.   Yes.

22 Q.   All right. Where do we go?

23 A.   Okay. The first quadrant, in the upper left, is

24 for nano 5; so, that's Plaintiff's Exhibit 712, page 33.

25   For the upper right quadrant, Plaintiff's

1 Exhibit 715, page 34.

2   And then for the nano 2, in the lower left

3 quadrant, Plaintiff's Exhibit 714, 035.

4   And then for the lower right, the classic 3,

5 for Plaintiff's Exhibit 713, page 0199.

6 Q.   All right. So, are these pages from the four

7 different versions of source code for which you printed

8 off functions that were relevant to your analysis?

9 A.   Yes. That's correct.

10 Q.   All right. What are we looking at?

11   THE COURT: Okay. Counsel, we're going to

12 take a break.

13   Ladies and gentlemen, I'll ask you to be back

14 here at 11:00.

15   (The jury exits the courtroom, 10:44 a.m.)

16   THE COURT: We'll be in recess until 11:00.

17   (Recess, 10:44 a.m. to 11:00 a.m.)

18   (Open court, all parties present, jury not

19 present.)

20   MR. STEPHENS: Your Honor, it appears

21 Dr. Almeroth may be testifying from some notes that we

22 haven't seen. I just wanted to raise that --

23   (The jury enters the courtroom, 11:00 a.m.)

24   THE COURT: Do you have notes there?

25   THE WITNESS: Yes, sir.

 1   THE COURT: Okay. Mr. Holdreith, any

 2 objection to those being disclosed?

 3   MR. HOLDREITH: No, sir.

 4   THE COURT: Okay.

 5   MR. STEPHENS: May I approach, your Honor?

 6   THE COURT: Do you need to see them while he's

 7 testifying, or do you want to see them before you

 8 cross-examine?

 9   MR. STEPHENS: Before I cross.

10   THE COURT: Okay. Next break.

11   MR. HOLDREITH: May I proceed, your Honor?

12   THE COURT: Yes.

13   MR. HOLDREITH: Thank you.

14 BY MR. HOLDREITH:

15 Q.   Dr. Almeroth, when we left off, you had referred

16 to some pages from the source code, Exhibits 712, 713,

17 714, and 715, the four versions that you looked at; and

18 we were discussing the double skip back command.

19 A.   That's correct.

20 Q.   What did you find?

21 A.   What I found is that the same kind of "while" loop

22 structure that existed just like we had for skip can be

23 found here in the "while" loop for back. And remember

24 this spans the whole range from the classic 3 all of the

25 way up to the nano 5.

1   They all have a "while" loop and then they

2 have a comment that says "Find the previous song in the

3 playlist that plays." "While (true)," "Find the previous

4 song in the playlist that plays."

5   "While (true)," "Find the previous song in the

6 playlist that plays."

7   "While (true)," "Find the previous song in the

8 playlist that plays."

9   And that's to demonstrate the point that there

10 is a lot of similarity in structure between the different

11 source code versions from the very beginning up until the

12 nano 5.

13 Q.   And is this a function that is part of the

14 algorithm for responding to the back command?

15 A.   Yes, it is.

16 Q.   And I'm sorry. I should have said the double back

17 command.

18 A.   That's correct.

19 Q.   All right. Dr. Almeroth, anything else you wanted

20 to explain about that?

21 A.   No.

22 Q.   Dr. Almeroth, I'd like to turn now to the last

23 line of the Demonstrative Exhibit 1066 that refers to the

24 "go command." What is that, from the user's point of

25 view?

991

1 A.   The "go" command was the ability to move through

2 the list of songs and to go to a particular song,

3 regardless of what was already playing on that playlist.

4 You could go to a song, hit the inner circle, the

5 "select" button, and go directly to that song.

6 Q.   All right. And is there a -- I'm sorry. That's

7 found -- is that found in the '076 patent?

8 A.   No, it's not.

9 Q.   All right. The "go command not required," it says

10 on the chart. Can I check that off for '076?

11 A.   Yes.

12 Q.   In the '178 patent it's found in limitations 1E

13 and 14K. Is there a definition that applies to those?

14 A.   Yes, there is.

15 Q.   All right. I'll put that on the screen. I'm

16 showing you Demonstrative Exhibit 1048. Is this one of

17 the court's definitions that identifies the corresponding

18 structure for that go algorithm?

19 A.   Yes. That's correct.

20 Q.   And did you follow this definition when you did

21 your analysis?

22 A.   Yes, I did.

23 Q.   And just real quickly, what's happening here in

24 this algorithm?

25 A.   The two basic steps are based on what the index

992

1   value is that the user has selected on -- based on the

2   song that the user has selected on, there is a

3   corresponding index value. And then using that index

4   value, you have to find the ProgramID of that song and

5   then play that song.

6   Q.   Did you find this algorithm or the equivalent in

7   the classic 6, the nano 4, and the nano 5?

8   A.   Yes, I did.

9   Q.   Where did you find that?

10 A.   I found it in all three, but I can show you the

11 source code for the nano 5.

12 Q.   All right.

13 A.   So, that's Plaintiff's Exhibit 712; and it's on

14 page 75.

15 Q.   All right. I'm showing you now Plaintiff's

16 Exhibit 712. And did you say page 75?

17 A.   Yes.

18 Q.   All right. We're at page 75. What do you see

19 here?

20 A.   I'd like you to blow up this portion (indicating),

21 which is the name of the function.

22 Q.   Right here (indicating)?

23 A.   Yes.

24   And the name of the function is

25 "HandleSelectOnLogicalIndex."

993

1   Those words make sense to me with respect to

2 what's happening here. You're handling the select, and

3 it's on a logical index. And the information --

4 Q.   Let me break that down, Dr. Almeroth. I'm sorry.

5 What is the select?

6 A.   The select is the "select" button. When the

7 "select" button is interpreted as this is the go command,

8 then other code will determine what the index value is

9 that you're currently on, which represents the song in

10 the playlist that you've selected. And that's the

11 information that's passed to this function as part of

12 this index.

13   So, you get an integer, a number, that

14 represents where in the playlist the user has selected.

15 Q.   And I know it's awfully hard to read,

16 Dr. Almeroth; but is that about line 3514?

17 A.   That's correct.

18 Q.   Okay. And I interrupted you. Was there anything

19 else you wanted to explain about this?

20 A.   No. That's the main part of this. The next thing

21 I want to show is on the next page. So, that's

22 Plaintiff's Exhibit 712, 076. And if you blow up this

23 portion of the code (indicating).

24 Q.   Pretty much all of the source code lines here?

25 A.   Yes.

994

1 Q.   Okay.

2 A.   What you'll see in several places -- and I'll read

3 off the line numbers -- 3560, 3572, 3581, and 3585 --

4 there's another one, 3581 -- these are all the different

5 conditions that have to be checked; but in the end the

6 media is played, which is the second step of the

7 algorithm, that once you've determined the index value,

8 you then call this function "DoPlayMedia," depending on

9 which of these conditions is true.

10 Q.   Dr. Almeroth, is this where you found the

11 algorithm that satisfies limitations 1E and 14K of the

12 '178 patent?

13 A.   That's correct.

14 Q.   And did you find that in the classic 6, the

15 nano 4, and the nano 5 limitations 1E and 14K of the

16 '178 patent are met?

17 A.   Yes.

18 Q.   Check those off?

19 A.   Yes, please.

20 Q.   All right. Next board?

21 A.   Yes, please.

22 Q.   Now, Dr. Almeroth, I'm going to show you Board

23 Number 1067. Is this a continuation of the columns that

24 we've been looking at?

25 A.   Yes, it is, just like the other four or five

995

1 boards we've looked at.

2 Q.   Okay. Now, is there anything relevant to the

3 '076 patent on this Board Number 1067?

4 A.   There is not.

5 Q.   Okay. This just isn't required in '076?

6 A.   That's right. It's not a particular limitation.

7 Q.   What is it in the '178 that's additional here that

8 you're not finding in the '076 with reference to a

9 "display screen listing program files"?

10 A.   That's exactly what the dependent claim 2 and 2A

11 and 2B of the '178 patent and 14H of the '178 patent

12 requires, that you have a display screen listing program

13 files.

14 Q.   Okay. And what does that mean for the user? I

15 guess it's obvious, but could you please explain it?

16 A.   Certainly. It means the user, as part of the

17 device, has a screen; and that screen will show audio

18 files that, for example, are on playlists.

19 Q.   And do the classic 6 and the nano 4 and the nano 5

20 have a display screen that meets all of the elements of

21 the '178 claim 2, including 2A and 2B, as well as

22 element 14H?

23 A.   Yes.

24 Q.   And how did you determine that?

25 A.   Well, using the devices, I can very clearly see

996

1 that they have a display screen and that they meet that

2 limitation. I also looked in the user guide and again in

3 the bill of materials and in the -- the chip

4 specifications will talk about the display in detail.

5 Q.   Could we check these off?

6 A.   Yes.

7 Q.   All right. The last piece of text on this chart

8 is with reference to '178 dependent claim 3, including

9 3A. What is that?

10 A.   What this is is that for the song that's playing,

11 there is a visible indication on the screen of a

12 currently playing song. That's what's required by

13 claim 3 and 3A.

14 Q.   Did you find that in the classic 6, the nano 4,

15 and the nano 5 it can give a visible indication of the

16 currently playing song?

17 A.   Yes.

18 Q.   How did you determine that?

19 A.   A similar procedure, looking at the device. I

20 showed an example for the classic 3 which isn't included

21 here; but the classic 6, nano 4, and nano 5 do the exact

22 same thing on the display. They'll show the currently

23 playing song.

24 Q.   All right.

25 A.   And also I used the user guide which described

1 that functionality and then the bill of materials and

2 then the chip specification.

3 Q.   All right. Dr. Almeroth, did you find that the

4 dependent claim 2 of the '178 patent is met by the

5 classic 6, the nano 4, and the nano 5?

6 A.   Could you restate that question? I think you said

7 "claim 2."

8 Q.   Oh, I'm sorry. Thank you, Dr. Almeroth.

9   Did you find that dependent claim 3 is met --

10 of the '178 patent is met by classic 6, nano 4, and

11 nano 5?

12 A.   That's correct.

13 Q.   And it says "not required" over here (indicating)

14 under claim 14.

15 A.   Yes. You can check that. It's not a separate

16 limitation that's required for claim 14.

17 Q.   All right. Dr. Almeroth, is this going to be the

18 last board on this matrix?

19 A.   Yes, sir.

20 Q.   I'm now showing you the board which is numbered

21 1068. What is shown here?

22 A.   These are two of the dependent claims required for

23 claim 13 of the '178 patent. That's the last claim that

24 I have to talk about, and it's claim 13. Claim 13

25 depends on claim 9. Claim 9 depends on claim 1.

998

1   Now, we've already covered all of the

2 limitations from claim 1; so, what's left is all of

3 claim 9 and all of claim 13.

4 Q.   All right. And does this relate to the

5 '076 patent at all?

6 A.   It does not.

7 Q.   What's this about, "program selections on behalf

8 of the user?

9 A.   What claim 9 talks about is that the songs that

10 are on the playlist -- and these are songs on the

11 playlist that go onto this device that the user can

12 play -- that the songs on the playlist that this device

13 can play are selected on behalf of the user and that the

14 device has to be specifically programmed and capable of

15 playing those playlists.

16 Q.   Did you find evidence that the iPods are

17 specifically programmed to do that and specifically the

18 classic 6, the nano 4, and the nano 5?

19 A.   Yes, I did.

20 Q.   How did you do that?

21 A.   Well, I examined the source code. And you can

22 tell in the source code that these devices can handle

23 playlists of a particular type. And the types of

24 playlists that the device can handle are, for example,

25 what are called "Smart Playlists" and "Genius Playlists."

999

1 And this device has to be able to play those particular

2 kinds of playlists.

3 Q.   What is a Genius Playlist exactly?

4 A.   A Genius Playlist is where a device is given a

5 seed song -- for example, Frank Sinatra song -- and the

6 user says, "Create a playlist of songs that are similar

7 or like this Frank Sinatra song."

8 Q.   And what is a Smart Playlist exactly?

9 A.   A Smart Playlist is where the user can identify a

10 set of requirements, "I want a playlist of only ten

11 songs. I want a playlist of only my top-rated songs."

12 You can establish some criteria, and it will be used to

13 create a Smart Playlist. Those are examples of playlists

14 that are on behalf of the user, and those are different

15 than the user creating a playlist by themselves.

16 Q.   Did you find a description of how a Smart Playlist

17 is made in documents produced by Apple?

18 A.   Yes, I did.

19 Q.   I'm showing you now Plaintiff's Exhibit 161.

20   MR. STEPHENS: Objection, your Honor. This is

21 about a product that's not accused in this case.

22   THE COURT: Are you talking again about the

23 *iTunes*?

24   MR. STEPHENS: Yes.

25   THE COURT: Overruled.

1000

 1 BY MR. HOLDREITH:

 2 Q.   In the interest of time, Dr. Almeroth, I'm going

 3 to skip over that exhibit.

 4   Did you find evidence in the source code for

 5 the iPod classic 6, nano 4, and nano 5, that those

 6 devices, in their own source code in those iPods, are

 7 programmed specifically to play Smart and Genius

 8 Playlists?

 9 A.   Yes, I did.

10 Q.   All right. And, Dr. Almeroth, are you able to

11 point us to one of those references to show us what that

12 means?

13 A.   I believe I could.

14 Q.   All right. I'm going to show you Plaintiff's

15 Exhibit 715 at page 88. Is this some of the source code

16 that you looked at.

17 A.   Yes, it is.

18 Q.   All right. And looking at this page, is there

19 anything here (indicating) that informed your analysis?

20 A.   Yes.

21 Q.   What is that?

22 A.   What you're seeing here is a list of some of the

23 information that's provided about a playlist. Okay?

24 There's a lot of information in the recordkeeping that's

25 on the device about a particular playlist. For example,

1 here (indicating) there is a boolean which is either a

2 true or a false; and it's to answer the question of

3 IsSmartPlaylist.

4   What this is telling me is that one of the

5 criteria for a playlist is the fact that it's a Smart

6 Playlist. And this device will take this playlist,

7 regardless of whether it's a Smart Playlist or not, and

8 use that information and still be able to play the

9 playlist.

10   What that means is the device is capable of

11 playing playlists and specifically programmed to play

12 playlists that are Smart Playlists.

13 Q.   Dr. Almeroth, did you also find evidence in the

14 iPod nano user guide that the iPod is programmed to play

15 Smart or Genius Playlists?

16 A.   Yes, I did.

17 Q.   I'm showing you Plaintiff's Exhibit 107, and I

18 want to direct your attention to page 7 of Plaintiff's

19 Exhibit 107. Does this have some information about

20 whether the iPod is programmed to play a Smart or Genius

21 Playlist?

22 A.   That's right. About right here (indicating) there

23 is information that describes that some of the functions

24 that the iPod can do are "Play a saved Genius Playlist"

25 "From the playlist menu, select a Genius Playlist and

1002

1 then press the play/pause."

2   That says that the device can receive a Genius

3 Playlist and play that like any other playlist.

4 Q.   All right. Dr. Almeroth, have you now explained

5 how you found that elements for the '178 patent dependent

6 claim 9, including 9A, and dependent claim 13, including

7 element 13A, are found in the classic 6, the nano 4, and

8 the nano 5?

9 A.   Yes, I have.

10 Q.   Should I check those off?

11 A.   Yes, please.

12 Q.   Are we done with the boards?

13 A.   Yes, sir, we are.

14 Q.   All right. Dr. Almeroth, you've discussed a lot

15 of source code in your testimony now. Did you -- you

16 talked about a summary yesterday that was Exhibit 771A.

17 A.   Yes.

18 Q.   Did you prepare similar summaries of the source

19 code that are Exhibits 772A through 781A?

20 A.   Yes, that's correct.

21 Q.   And are those exhibits your summaries of the

22 functions that you found in the source code that are

23 relevant to your opinion as you've testified about today?

24 A.   Yes, they are.

25   MR. HOLDREITH: Your Honor, I'd like to offer

1003

1 Plaintiff's Exhibit 772A through 781A as summaries under

2 Rule 1006.

3   MR. STEPHENS: I object, your Honor.

4   THE COURT: State your objection.

5   MR. STEPHENS: They're not proper summaries

6 under Rule 1006, as we discussed yesterday. Also, they

7 include a lot of evidence that Dr. Almeroth did not talk

8 about at all.

9   THE COURT: All right. Have we gone -- have

10 you gone through -- because we discussed this on some of

11 the items. Have you gone through and removed any of

12 that?

13   MR. HOLDREITH: These are just the source code

14 summaries, your Honor, like 771A. So, it's just his --

15   THE COURT: Okay.

16   MR. HOLDREITH: -- description of source code.

17 It's not the documents.

18   THE COURT: All right.

19   MR. STEPHENS: Again, they include source code

20 he did not discuss, including source code for elements he

21 did not discuss source code for.

22   THE COURT: All right. Ladies and gentlemen,

23 because of the complexity of this case, I am going to

24 allow some of these summaries to go back to you to help

25 provide a road map of what the experts have said. It's

1004

1 very difficult, I think, for you to go back in there and

2 remember what the various experts said.

3   But you need to keep in mind that on those,

4 those are not evidence in and of themselves. For

5 example, it's not the iPod; it's not a nano. Basically

6 it's a summary of what the expert has testified to so

7 that you can then follow as a road map as to which

8 exhibits you should be looking at.

9   But be very sure you understand that just

10 because it's his summary, it's worth no more than his

11 actual testimony and the underlying exhibits and you

12 should be evaluating his testimony as he gives it and

13 you're likely to see this from one or more of the other

14 experts also.

15   So, I will allow it to go back to the jury

16 room for that purpose.

17   MR. STEPHENS: May I ask, your Honor, that

18 they be redacted to include only the code that he

19 actually testified about?

20   THE COURT: Let's go ahead and take a look at

21 that on a break, and we can go through that on -- page by

22 page if necessary.

23   MR. STEPHENS: Thank you.

24   THE COURT: Go ahead, counsel.

25   MR. HOLDREITH: Thank you, your Honor.

1005

1 BY MR. HOLDREITH:

2 Q.   Dr. Almeroth, I'm going to ask you now about your

3 conclusions of infringement. Did you prepare a chart to

4 help explain your conclusions on which iPods infringe

5 which claims of the patents?

6 A.   Yes, I did.

7 Q.   Okay. I'm now displaying Demonstrative

8 Exhibit 1061 on the screen. Is that your chart?

9 A.   Yes, it is.

10 Q.   Now, across the top row I see the Groups 1 to 8.

11 Is that the same groups we've been talking about?

12 A.   Yes, sir, it is.

13 Q.   And down along the column on the left side under

14 the word "claim," what is shown there?

15 A.   Those are the seven asserted claims in this case.

16 Q.   All right. And then there's a grid across. So,

17 can you just explain what you're showing here?

18 A.   Sure. For each one of the cells of this table for

19 a particular group and a particular claim, it's my

20 opinion that for this group it infringes this claim

21 (indicating).

22   So, for example, for the classic 3, it

23 infringes the three asserted claims, 1, 3, and 15 of the

24 '076 patent.

25   And then, likewise, for all of the groups for

1006

1 claims 1, 3, and 15 of the '076 patent, through my

2 analysis I've determined that they infringe -- that these

3 devices infringe these three claims (indicating).

4   And for the '178 patent, there are four

5 claims; but I've analyzed the classic 6, the nano 4, and

6 the nano 5 for claims 1, 6, 13, and 14 of the

7 '178 patent. And it's my opinion that each of those

8 three devices infringe each of the four claims that are

9 in this chart.

10 Q.   All right. And, Dr. Almeroth, is this box here

11 that says "discontinued before '178 patent came into

12 force," is that something we talked about and you

13 explained?

14 A.   Yes, it is. It has to do with when the

15 '178 patent was issued, and devices that were available

16 only before that date aren't being included here.

17 Q.   And that breaks across the middle of Group 6; is

18 that right?

19 A.   Yes. That's correct.

20 Q.   Why is that?

21 A.   Well, the classic 6 was available for purchase

22 when the '178 patent issued; but the nano 3 had

23 discontinued before that happened.

24 Q.   Okay. And, Dr. Almeroth, just to make sure we've

25 got a clear statement of your opinion, did you reach a

1007

1 conclusion about whether all eight groups of iPods

2 infringe the '076 patent claims 1, 3, and 15?

3 A.   I did.

4 Q.   What was your conclusion?

5 A.   That they infringe those claims.

6 Q.   Did you reach a conclusion about whether the

7 classic 6, the nano 4, and the nano 5 infringe claims 1,

8 6, 13, and 14 of the '178 patent?

9 A.   I did.

10 Q.   What was your conclusion?

11 A.   That those claims are infringed.

12 Q.   All right. Dr. Almeroth, I just have one topic we

13 still have to go through; and unfortunately -- and I

14 apologize for this -- but we need to make a record that

15 the information you relied on that we've gone over for

16 these eight groups -- what other information you looked

17 at for other iPods.

18   Now, when you looked at the user guides, the

19 technical specifications, the product specifications, the

20 chip specifications, and the bills of materials for all

21 of these iPods you found infringing, did you find similar

22 information for each of the eight groups to the

23 information you've testified about during your testimony

24 since Friday?

25 A.   Yes. That's correct.

1008

1 Q.   And for purposes that you relied on those

2 documents, did you find the same kinds or the same

3 information in all of the documents with only the

4 differences you've explained?

5 A.   That's correct.

6 Q.   Okay. Now, there are differences among those

7 documents.

8 A.   There are differences, and I talked about what

9 some of those differences are. But by and large, there

10 were many similarities. And even when there were

11 differences, they didn't affect the conclusions that I

12 reached with respect to infringement.

13 Q.   All right. Now, I'm just going to quickly go

14 through with you some of the documents we haven't talked

15 about yet -- I'll try to do this as quickly as we can --

16 to show what you mean by that.

17 A.   Yes, sir.

18 Q.   So, let's start with the Group 2 iPods. Okay?

19 A.   Yes.

20 Q.   And do you have -- let's just start with

21 Plaintiff's Exhibit 104. It's a user guide. Is this

22 something that you relied on?

23 A.   Yes, it is.

24 Q.   If you look at page 9, did you rely on it for the

25 connecting with the port?

1009

1 A.   I did.

2 Q.   If you look at page 47, is that something you

3 relied on?

4 A.   It is.

5 Q.   What does that show?

6 A.   That shows the earphones and the fact that Apple

7 describes using those earphones as the means for

8 listening -- for listening to audio.

9 Q.   Did you look at Plaintiff's Exhibit 298 which is

10 specifications for the iPod mini second generation?

11 A.   Yes. That's correct.

12 Q.   What sort of information did you find in this

13 document?

14 A.   This is the one that has information about that

15 there was RAM and that there was a hard drive.

16 Q.   Okay. And did you look at all the pages of this

17 document, 1, 2, 3, and 4?

18 A.   Yes, I did.

19 Q.   Did you also consider the bill of materials,

20 Plaintiff's Exhibit 321?

21 A.   I did.

22 Q.   And on page 37 of the bill of materials, did you

23 find information about the SDRAM?

24 A.   That's right, for the --

25   MR. STEPHENS: Objection, your Honor. Too

1010

1 many leading questions.

2   THE COURT: Sustained.

3 BY MR. HOLDREITH:

4 Q.   What information did you find on page 37?

5 A.   This was the SDRAM. This was the high-speed RAM

6 that was used.

7 Q.   Did you also find information in the bill of

8 materials on page 41?

9 A.   Yes, I did. And this relates to the type of

10 persistent mass storage that's used in this device.

11 Q.   Okay. Did you also consider the chip

12 specification, Plaintiff's Exhibit 95?

13 A.   Yes, I did.

14 Q.   And what sort of information did you find here?

15 A.   For example, I saw on page 2 that there was a

16 processor, that's the PortalPlayer 5022; that it has the

17 memory and system configuration, again that's the hard

18 disk drive; also that it has the display; the USB

19 physical interface; the audio digital-to-analog

20 converter; and then the headphone amp as well.

21 Q.   All right. Did you also consider documents -- I'm

22 sorry. Did you look through all the pages of this chip

23 specification, Exhibit 95?

24 A.   Yes, I did.

25 Q.   Dr. Almeroth, did you look at documents related to

1011

1 Group 3?

2 A.   Yes, I did.

3 Q.   Did you consider the iPod features guide that's

4 Plaintiff's Exhibit 102?

5 A.   Yes, I did.

6 Q.   Did you find similar information to what we just

7 discussed on pages 10 and 11 related to connecting the

8 iPod?

9 A.   Yes, I did.

10 Q.   Did you find similar information about syncing

11 that we discussed -- excuse me -- on page --

12   THE COURT: Okay. Again, why don't we cut

13 back on the leading.

14   MR. HOLDREITH: Sorry, your Honor. I'm just

15 trying to move quickly. I'll stop leading.

16 BY MR. HOLDREITH:

17 Q.   Did you consider information on page 21?

18 A.   Yes, I did.

19 Q.   And what was that relevant to?

20 A.   That was information that was relevant to syncing

21 and downloading music.

22 Q.   Did you consider information on page 54?

23 A.   Yes, I did.

24 Q.   What was that relevant to?

25 A.   That was information relevant to the use of the

1012

1 earphones.

2 Q.   Did you also, Dr. Almeroth, consider Plaintiff's

3 Exhibit 294, the -- and what is it?

4 A.   This is the technical specifications.

5 Q.   For which device?

6 A.   This is for the fifth generation iPod.

7 Q.   And what sort of information did you consider on

8 this document?

9 A.   The storage and memory -- and, so, that's the

10 RAM -- and then the persistent mass storage.

11 Q.   Okay. Did you also consider the bill of

12 materials, Plaintiff's Exhibit 317?

13 A.   317, yes.

14 Q.   And did you consider information on page 26 of the

15 bill of materials?

16 A.   Yes.

17 Q.   And what was that relevant to?

18 A.   That was the kind of RAM that's in this device.

19 Q.   Did you also consider information on page 29 of

20 the bill of materials?

21 A.   Yes. That describes the persistent mass storage.

22 Q.   All right. Did you also look, Dr. Almeroth, at

23 Plaintiff's Exhibit 92?

24 A.   Yes.

25 Q.   And what is this?

1 A.   This is the chip specification for the classic 5;

2 and I considered the type of processor, the memory that

3 was used, the display, the audio digital-analog

4 converter, and then I believe -- I've looked at the

5 record of pages in this, and those are examples of what

6 I've looked at.

7 Q.   All right. Dr. Almeroth, did you also look at

8 documents relevant to Group 4 of the iPods?

9 A.   Yes, I did.

10 Q.   Looking at Plaintiff's Exhibit 113, did you look

11 at the iPod nano features guide?

12 A.   Yes. This is for the nano 1.

13 Q.   On page 9 did you find relevant information?

14 A.   Yes. This describes connecting the iPod nano to

15 the computer for downloading and transferring songs.

16 Q.   And did page 20 provide relevant information?

17 A.   Yes. This is additional information about

18 downloading music and podcasts.

19 Q.   Did you also consider page 44?

20 A.   Yes, I did.

21 Q.   And what was that relevant to?

22 A.   This also talks about downloading songs as well.

23 Q.   Did you consider this specification, Plaintiff's

24 Exhibit 310?

25 A.   Yes, I did.

1014

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 1  Q.      What was this relevant to?

 2  A.      This was about the storage and capacity again and

 3  other system requirements of the device.

 4  Q.      Did you consider the bill of materials,

 5  Plaintiff's Exhibit 322?

 6  A.      Yes, I did.

 7  Q.      Did you look at page 34?

 8  A.      Yes.  I looked at this page for the RAM --

 9  Q.      All right.

10  A.      -- the high-speed RAM.

11  Q.      Did you look at page 36?

12  A.      I did.

13  Q.      Why did you look at page 36 of the bill of

14  materials?

15  A.      This was for the persistent mass storage.

16  Q.      Okay.  Dr. Almeroth, did you also look at the chip

17  specification, Plaintiff's Exhibit 96?

18  A.      Yes, I did.

19  Q.      And what did you look at this for?

20  A.      This is another chip schematic, and this is from

21  the nano 1.  Similar material, the CPU, the type of

22  memory.  This is a device that is the persistent mass

23  storage.  It uses the NAND flash memory.  So, I looked at

24  that here, also the audio digital-to-analog converter.

25  Q.      Dr. Almeroth, did you also look at documents
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1015

 1 relevant to Group 5 of the iPods?

 2 A.   Yes, I did.

 3 Q.   Did you consider the user guide, Plaintiff's

 4 Exhibit 105?

 5 A.   Yes, I did.

 6 Q.   Did you consider page 10 of that user guide?

 7 A.   Yes, I did.

 8 Q.   Why?

 9 A.   This was related to connecting the iPod and for

10 transferring, downloading music to the device.

11 Q.   Did you consider page 44?

12 A.   Yes. This is related to the earphones, the output

13 again.

14 Q.   Dr. Almeroth, did you also consider this technical

15 specification, Plaintiff's Exhibit 311?

16 A.   Yes, I did.

17 Q.   And what was relevant on this document?

18 A.   Again, as an example, the storage and memory

19 that's identified here on the first page.

20 Q.   Does that relate to the RAM and the persistent

21 mass storage?

22 A.   That's correct.

23 Q.   Did you also consider the bill of materials,

24 Plaintiff's Exhibit 323?

25 A.   Yes, I did.

1016

1 Q.   Did you consider page 29 of the bill of materials?

2 A.   Yes, I did.

3 Q.   For what purpose did you look at page 29?

4 A.   This was for considering the RAM.

5 Q.   Okay. And did you look at page 30 --

6 A.   Yes, I did.

7 Q.   -- of this document?

8   And I know it's hard to read. I'll blow it

9 up. What did you consider this document for?

10 A.   This is for the NAND flash memory. That's the

11 persistent mass storage in this device.

12 Q.   Did you also consider the chip specification,

13 Plaintiff's Exhibit 97?

14 A.   Yes, I did.

15 Q.   What did you consider there?

16 A.   For the CPU, the RAM, the SDRAM, the NAND flash,

17 the audio chip.

18 Q.   Which one is the audio chip?

19 A.   That is on pages 6 and 7, and that's to do the

20 digital-analog conversion.

21 Q.   All right. Dr. Almeroth, did you consider all of

22 the pages of this chip specification?

23 A.   I did.

24 Q.   All right. Dr. Almeroth, did you also consider

25 documents relevant to Group 6 of the accused products?

1017

1   A.   I did.

2   Q.   Did you look at the user guide, Plaintiff's

3   Exhibit 106?

4   A.   I did.

5   Q.   Did you consider page 10?

6   A.   Yes, I did, with respect to the description of the

7   connecting and disconnecting the iPod as it relates to

8   transferring and downloading music.

9   Q.   And does that continue over onto page 11?

10 A.   Yes.

11 Q.   Did you also consider page 26 of this user guide?

12 A.   Yes, I did.

13 Q.   And why did you look at page 26?

14 A.   This is a description in the user guide about

15 what's displayed on the screen. Those were some of those

16 last limitations that says that you had to display

17 something on the screen.

18 Q.   And what does this show that is displayed in this

19 iPod?

20 A.   This is a song that's currently playing.

21 Q.   Did you also consider page 55 of this manual?

22 A.   Yes, I did.

23 Q.   And what did you consider here?

24 A.   This is about the earphones.

25 Q.   Great. Dr. Almeroth, did you consider Plaintiff's

1018

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 1  Exhibit 292?

 2  A.      Yes, I did.

 3  Q.      What is that?

 4  A.      Including the storage and the memory.  This again

 5  is the RAM and the use of the NAND flash for the

 6  persistent mass storage.

 7  Q.      And what device is this?

 8  A.      This is the nano third generation.

 9  Q.      Did you also consider the bill of materials,

10  Plaintiff's Exhibit 331?

11  A.      Yes, I did.

12  Q.      Did you consider page 26?

13  A.      Yes, I did.

14  Q.      All right.  Why were you looking at page 26?

15  A.      This is for SDRAM, the high-speed RAM.

16  Q.      Did you also look at page 32?

17  A.      Yes, I did.

18  Q.      Why did you consider page 32?

19  A.      That is for the NAND flash memory as the

20  persistent mass storage.

21  Q.      Great.  Moving right along, did you look at the

22  chip specification, Plaintiff's Exhibit 98?

23  A.      Yes, I did.

24  Q.      What did you look at this for?

25  A.      Many of the same kinds of things.  I looked at it
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1019

1 for, for example, the NAND flash memory as the mass

2 storage and then the audio card, the WM audio.

3 Q.   Did you look at all of the pages of the chip

4 specification?

5 A.   I did.

6 Q.   Okay. Dr. Almeroth, moving to the classic 6,

7 that's a member of Group 6; is that right?

8 A.   That is correct.

9 Q.   Did you look at the features guide, Plaintiff's

10 Exhibit 103, for the classic 6?

11 A.   Yes, I did.

12 Q.   And did you consider page 10?

13 A.   Yes, I did.

14 Q.   What did you look at that for?

15 A.   This page and page 11 is for connecting and

16 disconnecting the iPod, and that's for the downloading

17 and transferring again. And that's the same figure we've

18 seen and the text around it.

19 Q.   And did you consider page 22 as well?

20 A.   Yes, I did. This is also again about playlists,

21 and this also has a reference to Smart Playlists on it.

22 Q.   Did you consider page 26?

23 A.   Yes, I did.

24 Q.   Why?

25 A.   This is the same kind of figure about the "now

1 playing" that shows that there is a song that's currently

2 being displayed with this device.

3 Q.   All right. Did you also consider page 55?

4 A.   Yes. This is for the earphones.

5 Q.   Okay. Dr. Almeroth, we're now on Group 7. Did

6 you consider materials for Group 7?

7 A.   Yes, I did. This is the iPod nano 4.

8 Q.   Did you look at Plaintiff's Exhibit 278, the user

9 guide?

10 A.   Yes.

11 Q.   Did you consider page 8?

12 A.   Yes, I did. This is with respect to playing

13 Genius Playlists.

14 Q.   And is this the relevant portion of the page?

15 A.   Yes, it is.

16 Q.   Did you also consider page 14?

17 A.   Yes, I did.

18 Q.   And what's relevant about this page?

19 A.   This is the page I considered, one of the pages

20 with respect to connecting the iPod nano; and this

21 includes a figure and the text below it that's

22 particularly relevant.

23 Q.   That's relevant to what?

24 A.   Downloading and transferring songs and playlists.

25 Q.   Did you also look at page 34?

1021

1 A.   Yes.

2 Q.   What does that show?

3 A.   This is with respect to displaying a currently

4 playing song.

5 Q.   Did you look at page 63?

6 A.   Yes, I did.

7 Q.   What does this show?

8 A.   This is the earphones for the nano 4.

9 Q.   Did you also look at technical specifications for

10 this group?

11 A.   Yes, I did.

12 Q.   And this is Plaintiff's Exhibit 290. What

13 information did you get from this document?

14 A.   This was the storage and memory, the use of RAM

15 and then the NAND flash memory for storage of songs and

16 playlists.

17 Q.   Did you also look at the bill of materials for

18 this group?

19 A.   Yes, I did.

20 Q.   This is Plaintiff's Exhibit 314. Did you consider

21 this document?

22 A.   Yes, I did.

23 Q.   And did you consider page 30?

24 A.   Yes, I did.

25 Q.   For what purpose did you look at page 30 of the

1022

1 bill of materials?

2 A.   This is for the NAND flash memory references that

3 identify the flash memory in this device.

4 Q.   All right. Did you also consider page 31?

5 A.   Yes, I did.

6 Q.   Why did you look at page 31 of this document?

7 A.   I'm trying to find the entry.

8   This is for the RAM that's used in this

9 device.

10 Q.   Okay. And did you also -- let me draw your

11 attention in particular to this line (indicating) about

12 Samsung semiconductor. Let me see if I can blow it up.

13   Is there any relevant information in this line

14 (indicating)?

15 A.   (Pausing.)

16 Q.   Am I pointing you to the wrong thing?

17 A.   That is also part of the memory description.

18 Q.   Okay. Did you look at the chip specification,

19 Plaintiff's Exhibit 99?

20 A.   Yes, I did.

21 Q.   What did you find here?

22 A.   This -- for example, the discussion of the RAM,

23 the NAND flash, the audio codec, some of those as

24 features.

25 Q.   And the audio codec is what?

1023

1 A.   That's the sound card that converts the

2 digital-audio to analog.

3 Q.   And you mentioned, I think, the RAM here?

4 A.   Right. Here it's called the "DDR."

5 Q.   Did you look at all of the pages of this chip

6 specification?

7 A.   Yes, I did.

8 Q.   Dr. Almeroth, we are now to the final group, 8.

9 Did you consider materials relevant to Group 8?

10 A.   Yes, I did.

11 Q.   Did you look at this user guide, Plaintiff's

12 Exhibit 107?

13 A.   Yes, I did.

14 Q.   Did you consider page 7 of the user guide?

15 A.   Yes, I did.

16 Q.   For what purpose?

17 A.   For playing Genius Playlists.

18 Q.   Is that here (indicating)?

19 A.   Yes.

20 Q.   All right. Did you consider page 13?

21 A.   Yes, I did.

22 Q.   For what purpose?

23 A.   For the purpose of connecting the nano 5 for the

24 purpose of transferring and downloading songs and

25 playlists.

1024

1 Q.   Did you also consider page 22?

2 A.   Yes, I did. This is with respect to using Genius

3 to create playlists that then can be transferred and

4 played on the device.

5 Q.   Did you also consider page 33?

6 A.   Yes, I did. This is the "now playing" screen. It

7 shows for a currently playing song, information about

8 that song.

9 Q.   Did you also consider page 85? I'll blow it up so

10 you can see it.

11 A.   Yes, I did. And this is with respect to the

12 earphones.

13 Q.   Did you consider Plaintiff's Exhibit 291?

14 A.   Yes, I did.

15 Q.   What is this?

16 A.   This is the technical specification. Again it's

17 for the nano 5. And I used this for the storage and

18 memory, the indication of RAM and the hard disk drive.

19 Q.   Did you also consider the bill of materials,

20 Plaintiff's Exhibit 85?

21 A.   Yes, I did.

22 Q.   Did you look at page 37?

23 A.   Yes.

24 Q.   For what purpose did you look at page 37? I'll

25 blow it up so you can see it.

1025

1 A.   This was for the memory as well.

2 Q.   Okay. Did you also consider page 44?

3 A.   Yes.

4 Q.   And for what purpose did you look at page 44?

5 A.   This was memory as well. This is the NAND flash

6 memory.

7 Q.   Dr. Almeroth, I'm happy to tell you this is the

8 very last one. Did you also consider Plaintiff's

9 Exhibit 100?

10 A.   Yes, I did.

11 Q.   What is this?

12 A.   This is the chip specification for the nano 5.

13 Q.   For what purpose did you consider this document?

14 A.   The RAM, the NAND flash, and then the audio codec.

15 Q.   All right. Did you look at all of the pages of

16 Plaintiff's Exhibit 100?

17 A.   Yes, I did.

18 Q.   Dr. Almeroth, we've just been through a large

19 number of documents that you considered with respect to

20 Groups 1 to 8. Is that everything that you looked at?

21 A.   No, that's not.

22 Q.   Is that a selection which is information that did

23 show information that established infringement of the

24 claims in the case along with the source code that you

25 looked at?

1026

1 A.   Yes. That is absolutely true.

2 Q.   All right.

3   MR. HOLDREITH: Your Honor, I pass the

4 witness.

5   THE COURT: Mr. Stephens.

6   MR. STEPHENS: Yes, your Honor. I have a few

7 binders of exhibits.

8   MR. CORDELL: May I, your Honor?

9   THE COURT: Please.

10   CROSS-EXAMINATION OF KEVIN C. ALMEROTH

11 BY MR. STEPHENS:

12 Q.   Good afternoon, Dr. Almeroth.

13 A.   Good afternoon, sir.

14 Q.   My name is Garland Stephens. I represent Apple.

15 A.   Yes, sir.

16 Q.   If you'll recall, you and I have spoken before in

17 a deposition I took of yours.

18 A.   Yes.

19 Q.   Now, you testified that you have spent about 900

20 hours on this case; is that right?

21 A.   That's correct.

22   THE COURT: All right. Wait. Be sure you're

23 talking right into the microphone because we want to be

24 sure to hear what's going on. Go ahead.

25   *

1027

 1 BY MR. STEPHENS:

 2 Q.   Dr. Almeroth, you've testified that you've spent

 3 about 900 hours on this case; is that correct?

 4 A.   That's right.

 5 Q.   And you are charging a rate of $500 an hour; is

 6 that right?

 7 A.   Yes, sir.

 8 Q.   So, that totals up to about $450,000; is that

 9 right?

10 A.   Yes, sir.

11 Q.   Now, in all of that time and all of that money,

12 you have not been able to locate a LocType in the iPods,

13 correct?

14 A.   I believe I've located the equivalent of the

15 LocType.

16 Q.   Okay. But not the LocType itself, right?

17 A.   Not a separate variable with the name of

18 "LocType."

19 Q.   Okay.

20 A.   That's correct.

21 Q.   And when I asked you in your deposition the name

22 of what you contended was a LocType, you said it didn't

23 have a name, right?

24 A.   That's correct, because I was looking at the

25 equivalent of the LocType.

1028

1 Q.   But you said that there was an implicit LocType in

2 the iPod, right?

3 A.   Well, that's correct. As I described in my

4 direct, it's the fact that all of the programs in the

5 playlist file are all of the same LocType and that's the

6 program type.

7 Q.   And I asked you where the LocType was stored; and

8 you said it doesn't have a specific storage location,

9 right?

10 A.   That's correct.

11 Q.   And, in fact, you said it does not have a physical

12 manifestation in Apple products, right?

13 A.   That's correct, for the reasons I gave earlier.

14 Q.   And when I asked you if not having a physical

15 manifestation means that it doesn't exist in the real

16 world, you said that that was becoming a metaphysical

17 discussion. Do you remember that?

18 A.   Yes, I do. And I can explain what I meant by

19 that.

20 Q.   If you would look, sir, at Plaintiff's Exhibit 1

21 in your binder.

22 A.   Yes.

23 Q.   That's the '076 patent you've testified about,

24 right?

25 A.   Yes, it is.

1029

1 Q.   If you'd turn to Figure 5.

2 A.   Yes, sir.

3 Q.   Those are the LocTypes in a sequencing file in the

4 patent on the left side of Figure 5 in the "selections"

5 table; is that right?

6 A.   That's correct. Figure 5 is an example of a

7 sequencing file, and it is a very complex one with using

8 multiple LocTypes.

9 Q.   Okay. And you heard Mr. Call explain that the

10 LocTypes allow the player to skip from subject to subject

11 and topic to topic. Do you recall that?

12 A.   Yes. I understand Mr. Call said that was one of

13 the bells and whistles of what was allowed in the patent.

14 Q.   And you have not expressed any opinion that iPods

15 can do that sort of skipping, right?

16 A.   No. They do a much more simplified version of the

17 algorithm that was identified by the court.

18 Q.   And it was your testimony that because they can't

19 do that, they don't need to have a LocType; is that

20 right?

21 A.   Can you say that again?

22 Q.   It's your testimony that because the Apple

23 products don't skip from subject to subject or topic to

24 topic, they don't need to have a LocType, right?

25 A.   That was part of it. The fact that all of the

1030

1 items in the playlist are of the same LocType and

2 therefore it would be redundant to have Ps all the way

3 down this column, then you can get rid of that column and

4 still meet the limitations of the claim.

5 Q.   Okay. Now, you said that they all have the same

6 LocType because they're all playable, right?

7 A.   No, because they're all program segments.

8 Q.   And they're all program segments that are

9 playable.

10 A.   Not necessarily.

11 Q.   Okay. Well, all the program segments that you see

12 with the types S, T, and P in Figure 5 are playable,

13 right?

14 A.   That's hard to determine from Figure 5. Figure 5

15 doesn't really address the question of whether or not

16 there's things that are actually present here. In fact,

17 if I remember the patent correctly, one of the things

18 that can happen is the corresponding item that's listed

19 here is not on the player.

20 Q.   Okay.

21 A.   So, there's a note to download that later in one

22 of the embodiments that's described.

23 Q.   And the S or the T or the P doesn't say anything

24 about that, right?

25 A.   No.

1031

1 Q.   So, the LocType doesn't tell you whether it's

2 playable or not.

3 A.   Again, in this example -- Figure 5 is the example

4 that's shown here. I mean, there's other parts of the

5 patent that I think would be relevant to this discussion.

6 And then, of course, there's the court's construction.

7 Q.   Okay. But, again, the LocType doesn't tell you

8 whether a program segment is playable or not, right?

9 A.   I don't believe so.

10 Q.   Okay. Now, if you'd turn to Column 32, which is

11 at page 25 of Plaintiff's Exhibit 1, at the top of the

12 right column, lines 1 to 7 or so, there is a Pascal

13 record definition. Do you see that?

14 A.   Yes, there is.

15 Q.   And you recall Mr. Call testifying that that's the

16 definition of a Selection_Record, right?

17 A.   I believe what Mr. Call said was that this was one

18 embodiment of a Selection_Record.

19 Q.   Okay. And there's no other embodiment of a

20 Selection_Record described in the patent, right?

21 A.   I believe there is. I think consistent with the

22 court's definition of what a Selection_Record can be --

23 and that's based on the description here -- you can

24 have --

25 Q.   Well, let me interrupt you. There's no other

1032

1 computer code that describes a Pascal record definition

2 for a Selection_Record; is that correct?

3 A.   Oh, I understand your question now. There isn't

4 another example just like this that shows an alternate

5 example that just has Selection_Record and no LocType.

6 Q.   Okay.

7 A.   That's correct.

8 Q.   Now, you've mentioned to me in your deposition

9 that you'd never heard the term "LocType" before this

10 case, right?

11 A.   I believe that's true.

12 Q.   And you also told me that you couldn't say how the

13 accused devices would behave differently if they didn't

14 include the equivalent of a LocType, right?

15 A.   (Pausing.)

16 Q.   I think the way you put it was "implicit LocType."

17 A.   I think at the time of my deposition when you were

18 asking me this question, I wasn't able to come up with a

19 system off the top of my head that would be different

20 than what I was looking at to be analyzed. I mean, I was

21 really focused on analyzing these devices.

22 Q.   Okay. And I also asked you if you could describe

23 a set of criteria that would allow somebody looking at a

24 product to tell whether there was a LocType in it or not;

25 and you said that it would be difficult to identify a

1033

1 specific tangible discrete set of criteria to determine

2 whether or not a product included an implicit LocType,

3 right?

4 A.   I think that's along the same line of questioning.

5 I wasn't able to design a system off the top of my head

6 that would use this kind of complex sequencing file just

7 sitting there in the deposition.

8 Q.   Okay. And you also told me that you never

9 undertook to identify any Selection_Record that holds a

10 character that identifies a type of a program segment in

11 that record.

12   MR. HOLDREITH: Your Honor, I have an

13 objection. This may be relevant to the second part of

14 the case when invalidity comes up. I don't believe it's

15 relevant to the plaintiff's case-in-chief.

16   MR. STEPHENS: Your Honor, I was asking

17 about --

18   THE COURT: Overruled.

19 BY MR. STEPHENS:

20 Q.   Do you recall that?

21 A.   Could you repeat the question, just so I have it

22 clear?

23 Q.   Yeah. You told me that you did not undertake to

24 identify any Selection_Record that holds a character that

25 identifies the type of a program segment for that record.

1034

1 A.   That sounds correct, and that's because that

2 specific thing to look for was much more specific than

3 what was required by the claim.

4 Q.   Okay.

5 A.   So, I didn't have to look for something that

6 specific.

7 Q.   And that's because in your view it doesn't matter

8 if there is no LocType, right?

9 A.   No, that's not quite right. You have to have the

10 concept of a LocType. The court's claim construction

11 talks about finding a next Selection_Record of the

12 appropriate LocType. But because of the way the device

13 is specifically programmed, that all of the items in the

14 playlist are a program segment, then it's a matter of

15 finding the one that's playable.

16 Q.   Okay. So, it doesn't matter that it has no

17 physical manifestation in the device, right?

18 A.   That's close; but I just want to be absolutely

19 clear that the devices meet the court's construction

20 through the use of an implicit LocType -- that the fact

21 that everything is P -- and I think that that falls

22 within the confines of the court's construction.

23 Q.   So, it's your view that it meets the claim

24 construction even though the LocType has no physical

25 manifestation in the product, correct?

1035

1 A.   It's not quite right, again, because the claim

2 construction, if you look at the words very carefully,

3 say finding the next Selection_Record of the appropriate

4 LocType. So, the claim construction doesn't require an

5 explicit LocType. In fact, the construction for

6 sequencing file says that it can just be an ordered list

7 of numbers; and it's very clear that it doesn't have to

8 include an explicit LocType.

9 Q.   Okay. So, you agree, though, that there is no

10 physical manifestation of a LocType in any accused

11 product, right?

12 A.   I just want to be careful because "physical

13 manifestation" -- I will agree there is not a variable,

14 but I think that the concept of a LocType and finding the

15 next appropriate LocType is part of the code.

16 Q.   Sir, your words were that it did not have a

17 physical manifestation in the accused products, right?

18 A.   Right. That's -- and that was part of a series of

19 questions where I was trying to explain --

20 Q.   Thank you.

21 A.   -- what I just said.

22 Q.   Thank you.

23   Now, when you were testifying about

24 infringement, you did not really distinguish between

25 which claims you were alleging are infringed literally

1036

1 and which claims you allege are infringed by the doctrine

2 of equivalents, right?

3 A.   I believe in my testimony I tried to be as clear

4 as possible.

5 Q.   Okay. Well, I'd like for you to clear that up for

6 us if you could.

7   If you would turn to the "asserted claims" tab

8 in your binder. This is a reproduction of the "asserted

9 claims" tab in the juror notebooks.

10 A.   Yes.

11   MR. HOLDREITH: I'm sorry, counsel. Is that

12 in the first binder?

13   MR. STEPHENS: Yes, near the back.

14 BY MR. STEPHENS:

15 Q.   Could you just go through the claims one by one

16 and tell me which ones you have testified are infringed

17 literally?

18 A.   Claim 1 --

19   THE COURT: Wait.

20   MR. HOLDREITH: I'm not sure if counsel is

21 asking about the doctrine of equivalents or structural

22 equivalents under 112 ¶6. I think the question is --

23   THE COURT: It would probably be good to get

24 that one cleared up.

25   MR. STEPHENS: Fair enough. I thought I was

1037

1 clear, but I'll make sure.

2 BY MR. STEPHENS:

3 Q.   I'm asking about which claims you have testified

4 are infringed literally and not under the doctrine of

5 equivalents.

6 A.   Okay. And just so that it's clear that what I'm

7 understanding is literal infringement still allows for

8 equivalent structure.

9 Q.   Yeah. We'll get to that. I'm going to ask you to

10 go through the 112 ¶6 elements and tell me which ones are

11 met identically versus equivalent; but right now my

12 question is the claim as a whole, literal or doctrine of

13 equivalents.

14 A.   I just wanted to make that clear.

15 Q.   Thank you.

16 A.   Claim 1 is literal.

17 Q.   And that's claim 1 of the '076 patent, correct?

18 A.   That's correct.

19 Q.   On page 1 of the Patent Claims Asserted By

20 Plaintiff section of the juror notebooks?

21 A.   That's correct.

22 Q.   Okay.

23 A.   And since you're just asking yes or no on literal,

24 some of these are -- that I've also opined with respect

25 to under the doctrine of equivalents as well.

1038

1 Q.   Okay. Well, let's cover both of them at once.

2 So, are you also opining that claim 1 is infringed under

3 the doctrine of equivalents?

4 A.   No, I haven't said that yet. I'm just saying that

5 for claim 1 it's literal; but I'm trying to look at and

6 make sure as well for under the doctrine of equivalents.

7 Q.   Okay. Well, take a minute and I'll --

8   THE COURT: Okay. Ladies and gentlemen, we're

9 going to go ahead and take a break for lunch. Lunch

10 should be there for you in the jury room. We'll be back

11 at 1:00. Please remember my instructions. Don't discuss

12 the case even among yourselves while you're back there

13 having lunch.

14   (The jury exits the courtroom, 11:59 a.m.)

15   THE COURT: Okay. Please be seated.

16   You may step down.

17   I'm sorry?

18   MR. STEPHENS: I just wanted to ask, your

19 Honor, that the witness not speak to his lawyers during

20 the break since I have a line of questions pending.

21   THE COURT: I'm not going to make that

22 instruction.

23   MR. STEPHENS: Okay. Thank you.

24   THE COURT: But I do want to mention to

25 counsel that when we are -- when we get to damages -- and

1039

1 it's quite clear that defendants are going to be

2 making -- I guess on one hand you can say they've thrown

3 everything including the kitchen sink out but at some

4 point it's going to become clear that one or two of these

5 theories are going to be their strongest theories. I

6 haven't seen that they've favored me with knowing exactly

7 which ones those are.

8   But, for example, if I or the higher court was

9 to decide that JMOL should be granted on, let's say, the

10 '178 patent, you need to be sure that the damages -- and

11 this is for both sides -- that the damages experts have

12 given us a basis -- and in the jury verdict I'm going to

13 try to have a basis -- that if that winds up going away,

14 say, on appeal, they can go ahead and reverse and render

15 because they'll know how much damages are left. I don't

16 want this coming back for another hack at damages.

17   Or *vice versa*, if they decide that, yes,

18 Dr. Almeroth covered infringement real well on the -- I

19 don't know -- classic, for example, the iPod or whatever

20 but not some of the other devices and so they kicked

21 those out, for whatever reason, I -- be sure we have this

22 set up when they're given it and it's not just some lump

23 sum out there that then requires an entire new trial on

24 that.

25   My guess is that -- not my guess. From my

1040

 1 review, those numbers are there; but think about in your

 2 presentation on both sides what happens if, for example,

 3 ladies and gentlemen, you decide that nano is out or mini

 4 is out or the -- on future damages, of course -- my guess

 5 is some of these items aren't being sold anymore; so,

 6 clearly, you know, the future should be -- you're going

 7 on lump sum on Apple's side; so, it may not matter so

 8 much. Yours is just a pure lump sum.

 9   But even so, it would seem that if it was

10 found that they didn't make their case on infringement on

11 a couple of the items or maybe you made a case of

12 invalidity on one claim, what happens there.

13   I don't think that's going to -- I think your

14 invalidity contentions basically rise or fall altogether.

15 I'm not sure. But, you know, go through that and be sure

16 that we don't wind up with just a damages which is

17 unsupportable if something disappears, which it might on

18 JMOL or which it very well might on -- when it goes up to

19 the higher court.

20   So, I'm just giving you a heads-up on your

21 presentation because I will be looking for a way in the

22 verdict form to -- not so much on the lump sum but on

23 your side -- be able to parse that out. I mean, we're

24 not going to be able to do it on every single item but

25 maybe in the groups or something like that. Okay?

1041

1   Yes?

2   MR. SCHUTZ: I just wanted to raise an issue

3 that the court had touched upon yesterday that I think is

4 relevant to this discussion on literal versus doctrine of

5 equivalents. You referenced the *A1-Site* case. We've

6 taken a look at that, and there is probably as good as

7 I've seen a higher court try to explain that. I don't

8 know if it would be perhaps useful for you, in light of

9 the questioning that's here now, to maybe chat with the

10 jury just a little bit. I just wanted to toss it out

11 there since the court had suggested that yesterday.

12   MR. CORDELL: And, your Honor, we've also

13 looked at that case; and I think what might be most

14 appropriate is for us to get together and try to come up

15 with a definition the court could use if that would be

16 all right.

17   THE COURT: Why don't you? That would be

18 helpful, because it is, I think, one of the best cases

19 I've seen where they talk about it; and there's almost no

20 way that I've ever had any of these cases -- and I've

21 tried a lot of them. Maybe none of you ever get confused

22 between equivalents and structural equivalents but I've

23 got to admit I do and I've really got to stop and think,

24 pull back and look at it. You know, nonlawyers, it's got

25 to be even more confusing.

1042

1   So, yeah, if we can come up with something

2   along that line, it might -- I think it could be very

3   helpful. Available substitute -- and the court used some

4   other words in there also, but with the idea that it was

5   available at the time and it is a substitute or another

6   possibility. But take a look at it if you would.

7   MR. SCHUTZ: And just one other, you know,

8   issue that complicates it a little bit. You know,

9   available substitutes -- this was a coat hanger case, I

10   think. And when you're dealing with software algorithms,

11   there is an additional complication there regarding

12   available substitutes because it's not like you can go to

13   the store and say, "I'm going to buy this software

14   algorithm or this software algorithm." So, you've got

15   code that was available; but, you know, you don't have a

16   specific routine obviously.

17   So, we'll try to see if we can come up with

18   something; but there is that additional complication.

19   THE COURT: Well, and partly this is

20   conceptual, too. I mean, a way of trying to explain to

21   them why we as lawyers and judges have chosen to use the

22   exact same word for two different things, partly because

23   that's what Congress did to us. But we haven't done much

24   good in trying to -- or we haven't helped in our

25   definitions either.

1043

 1   That's what I'm looking for is a way -- I

 2   mean, it doesn't help Mr. Stephens when the jury just

 3   says "He's nuts. He just keeps using the same word two

 4   different ways," or, *vice versa*, "This witness is nuts.

 5   He's using the same thing two different ways and they

 6   won't explain it to us." That's not what we're here for,

 7   as lawyers and judges, is just to confuse them. They're

 8   probably confused enough. So, if you can come up with

 9   something or a concept or give me your best shot at it, I

10   think I'm going to have to come up with something in the

11   jury -- because in this case it seems to me more pointed

12   and cutting-edge than it is in many of the other cases

13   I've had so --

14   MR. STEPHENS: It's a complicated situation,

15   and I certainly favor anything that helps them not think

16   I'm nuts.

17   THE COURT: Yeah. Well...

18   All right. So, we'll be in recess, then,

19   until 1:00.

20   (Recess, 12:07 p.m. to 12:53 p.m.)

21   (Open court, all parties present, jury not

22   present.)

23   THE COURT: All right. I believe Ms. Chen

24   gave us some exhibits. Since they're defendant's

25   exhibits, I'm guessing that the objections or possible

1044

 1| objections are coming from plaintiff?

 2| MR. STEPHENS: Actually I think not, your

 3| Honor. We have proposed --

 4| THE COURT: You're objecting to them?

 5| MR. STEPHENS: We are objecting to the

 6| unredacted versions of them. We've proposed using

 7| redacted versions to remove some licensing information

 8| that would be within the scope of the *Daubert* motion on

 9| damages and Motion *in Limine* Number 21. And the other

10| side has refused to do that.

11| THE COURT: Oh, okay.

12| MR. STEPHENS: So, for example, Defendant's

13| Exhibit 271 at page 23, it's a schedule of product cost

14| details and there is a line for royalties. Those are not

15| patent royalties as far as anyone knows. And, so, under

16| Rule 403 they would be confusing. They're not probative

17| to any damages issue or any other issue in the case.

18| I don't need to go through them all, your

19| Honor. That's the only issue --

20| THE COURT: And these would be coming in with

21| whom?

22| MR. STEPHENS: Mr. Fadell who is here and

23| would be coming up next. We're taking him out of order,

24| as your Honor probably recalls.

25| MR. SCHUTZ: I'd like to be heard when -- if

1045

1 possible.

2   THE COURT: Wait, wait, wait. And, so, I

3 gather you're using him to talk about the cost of

4 producing these items?

5   MR. STEPHENS: Not at all, your Honor -- well

6 so --

7   THE COURT: It's got something to do with

8 costs.

9   MR. STEPHENS: No. Let me explain. So, at a

10 very high level, yes, he will address the overall cost of

11 development but not on a per-unit basis or breaking down

12 any costs or anything like that.

13   The reason for this exhibit is not to talk

14 about that particular portion at all. If you look at the

15 rest of the document, you will see there is discussions

16 about many other things, you know, competitive landscape,

17 vendor strategy, things like that, software architecture.

18 These exhibits are not being offered for any of the cost

19 information at all, none of those numbers.

20   THE COURT: Well, then, why do you have those

21 pages in there? Wouldn't it be easier to take out the

22 cost --

23   MR. STEPHENS: We're fine with taking out

24 those pages.

25   THE COURT: -- details?

1046

 1   MR. STEPHENS: We're fine with that.

 2   THE COURT: I mean, that would -- I mean, to

 3 put in exhibits with no explanation but some of the stuff

 4 redacted doesn't make a lot of sense.

 5   All right. Mr. Schutz.

 6   MR. SCHUTZ: Your Honor, as I --

 7   THE COURT: So, he keeps out all of this

 8 stuff -- I mean, they can choose what exhibits they want

 9 to present to their witness, I suppose.

10   MR. SCHUTZ: May I?

11   THE COURT: Yeah.

12   MR. SCHUTZ: Your Honor, of course they can

13 decide which exhibits they want to present to their

14 witnesses; but if they decide to present an exhibit

15 that's a document out of their files, in fact, authored

16 by the witness, I believe I'm entitled under Rule 106,

17 the completeness doctrine, to be able to have the whole

18 exhibit come in. If they want to use a document, I don't

19 think they can pick and choose -- especially when it's

20 one of their own documents that the witness authored,

21 that they can pick and choose what they want the jury to

22 see about that document.

23   THE COURT: Well, I think it depends on what

24 parts they're -- since we've already started off and

25 throughout this trial there's exhibits of 25 to 200 pages

1047

1 and only the pages that are being used are being used.

2 But why would -- I mean, if, for example, they wanted to

3 go into, on this Defendant's Exhibit 271, pages 1 through

4 20, which seem to cover the proposed product proposal

5 review, what does the -- why should we get into this line

6 dealing with royalties on page 23?

7   MR. SCHUTZ: Well, your Honor, what they

8 appear to be attempting is to tell part of the story

9 about the iPod development, leave out the part where they

10 actually had to get technology from others.

11   The message that they want this jury to

12 understand is that Apple invented the iPod, didn't need

13 any help from others; and, yet, they've got information

14 in here clearly showing that not only did they need to go

15 to other people to help them build the iPod, but some of

16 those people they had to pay royalties to.

17   I think under Rule 106 it's only fair that the

18 entire document be considered. They should not be able

19 to use it for purposes of saying, "Apple is the greatest

20 company in the world and we had this fabulous product"

21 and then prevent me from saying, "Well, just a second.

22 I've got a few questions about that."

23   MR. STEPHENS: May I respond, your Honor?

24   THE COURT: Sure.

25   MR. STEPHENS: We are not trying to hide the

1048

 1 fact that Apple licensed a fair amount of technology.

 2 The point is that those licenses were not patent

 3 licenses.   These licenses are not patent licenses.

 4 Apple, for example, licensed a software package called

 5 "Pixo." What they got for that was source code and, you

 6 know, technical assistance, a bunch of things like that.

 7 There was no patent license associated with that.

 8   So, we're not trying to hide the fact that

 9 Apple, in fact, bought chips from other companies and

10 brought in a bunch of technology from many other vendors.

11 That's not the point. The point is that putting in front

12 of the jury specific line items for royalties on a

13 per-unit basis that have nothing to do with patent

14 royalties is going to be very prejudicial and very

15 confusing to the jury.

16   MR. SCHUTZ: Just one brief comment on that,

17 your Honor. I find that argument by Mr. Stephens

18 interesting because they are trying to get in, as they

19 disclosed last night, Defendant's Exhibit 57, which is

20 the Pixo software license that shows they paid $500,000

21 for a software license. So, I don't know how they could

22 argue on the one hand none of this royalty information

23 comes in but we want to bring in the Pixo license.

24   MR. STEPHENS: We withdraw that exhibit, your

25 Honor. We're not going to offer that.

1049

 1   THE COURT: Okay. Well, what about page 24

 2 where it talks about -- it says "Royalty - Licensing

 3 Costs."

 4   MR. SCHUTZ: I'm sorry, your Honor. Are you

 5 in 271?

 6   THE COURT: Yes.

 7   The processor -- it's a blank. But then it

 8 says (reading) app framework 50 cents, MP3 decoder

 9 50 cents, AAC decoder 1.20, licensing costs 2.20.

10   I mean, you're paying some kind of royalty to

11 somebody for certain items, I presume.

12   MR. STEPHENS: Yeah. Your Honor, Mr. Fadell

13 testified, I think, about these very lines. If not

14 these, something similar. And he said he didn't believe

15 or didn't know whether they involved any patent component

16 at all, that they specifically were for software. So,

17 the app framework is the Pixo, I believe, framework we

18 just talked about, included a whole bunch of source code

19 that was used to provide windowing and menus and things

20 like that in the iPod.

21   The MP3 decoder, I think that included an

22 actual software codec that was used to decode and

23 playback compressed audio files, the same thing for the

24 AAC decoder. No evidence in the record that those are

25 patent licenses at all or even --

1050

1   THE COURT: Okay. Why shouldn't he be

2 asked -- you know, you have bought other technology; and

3 he says, "Yeah, we've licensed this software package.

4 We've licensed that software package."

5   MR. STEPHENS: I'm fine with those questions.

6   THE COURT: "Have you got any patents?" And

7 he says either "yes" or "no."

8   MR. STEPHENS: I'm fine with those questions,

9 your Honor. The problem I have is when you start putting

10 a per-unit number on it, it's highly prejudicial and very

11 confusing. If they want to ask generally whether there

12 were technology licenses in the process of creating the

13 original iPod, that's fine.

14   MR. SCHUTZ: And of course that --

15   THE COURT: Okay. Wait. Wait.

16   MR. SCHUTZ: Yes, sir.

17   THE COURT: All right.

18   MR. STEPHENS: And, your Honor, you already

19 excluded the MP3 and AAC licenses under our *Daubert*

20 motion.

21   THE COURT: All right. I'm going to allow

22 questioning about if they want to go into yes, you have

23 licensed software from other companies. But, Mr. Schutz,

24 I won't allow you, because of -- and I've already stated

25 this on Mr. Nawrocki -- any implications or attempts to

1051

 1 get into, well, these were licenses for various patents

 2 or intellectual property or whatever.

 3   Mr. Nawrocki has set out his opinions, and I

 4 have limited the kinds of licenses he can use; namely,

 5 not those involved in litigation and so forth. And in

 6 some cases there could be limits that it's got to be

 7 showed to be comparable.

 8   But the court is concerned about leaving an

 9 implication that there are some patent licenses out there

10 that need to be considered by the jury separate and apart

11 from the damages analysis so they come up with their own

12 damages analysis.

13   So, in terms of questioning in terms of "Isn't

14 it true you licensed software packages" or "decoders" or

15 whatever, I think that's fair, given what I understand

16 the witness is going to be talking about. But in terms

17 of implying or getting into that somehow these are

18 intellectual property licenses or patent licenses, I'm

19 going to sustain that at this point in terms of a motion

20 *in limine*.

21   Now, if he gets up and testifies on

22 cross-direct, or when Apple takes him, and opens up the

23 door, then I may reconsider that. But for right now I do

24 not want to try to pull the skunk out of the jury box

25 when Mr. Nawrocki and the other damages experts are

1052

 1 limited under the law as to what things can properly be

 2 considered in a damage analysis.

 3   MR. SCHUTZ: Fine.

 4   THE COURT: Okay?

 5   MR. STEPHENS: Your Honor, could I just ask

 6 for clarification? Does that mean that these numbers are

 7 out? Because we're very concerned about the specific

 8 per-unit numbers being confusing to the jury.

 9   THE COURT: Well, in terms of all of these

10 pages and so forth, if you're not going to -- if you're

11 not going to have those pages when you -- I mean, if --

12 put them in the exhibits, then they're -- then they're

13 not going to be there.

14   MR. STEPHENS: That's what we proposed to the

15 other side, your Honor; and they would not agree to that.

16 But we would propose taking out those entire pages.

17   MR. SCHUTZ: And we would object to that, your

18 Honor.

19   MR. STEPHENS: And I think today we can handle

20 it by simply having your Honor direct us not to examine

21 the witness on those pages and then we can provide

22 exhibits with those pages.

23   THE COURT: Well, it's a little -- okay.

24 You're not going to be presenting it, and I'm going to

25 need to see what kind of questions you're going to try to

1053

1 ask on cross or whatever based on this. I mean, again, I

2 think you run into more risk of an eventual ruling that

3 your damages analysis is incorrect under some of the more

4 recent cases by our higher court than what you could get

5 out of just simply bringing out these other kinds of

6 licenses that are out there.

7   I mean, your theory is the reason they make so

8 much money is they steal all of their intellectual

9 property; so, there aren't any licenses out there. Why?

10 Because they've stolen them.

11   MR. SCHUTZ: From your mouth to the jury's

12 ears, judge. That's --

13   THE COURT: That's your theory. I don't see

14 how you could have it both ways if your theory is that

15 they're just taking this stuff.

16   MR. SCHUTZ: No. They're selectively taking.

17   THE COURT: Oh, selectively. Okay.

18   Yeah. If -- I mean, I'm just going to have to

19 wait to see what kind of questions come up and you make

20 your objection. But I'll tell you right now I am

21 concerned about this idea of just going into something

22 that somehow taints the damage analysis.

23   MR. STEPHENS: Thank you, your Honor.

24   THE COURT: All right. Let's bring in the

25 jury.

1054

 1   MR. STEPHENS: Your Honor, Mr. Fadell is here.

 2 We could --

 3   THE COURT: Okay. Let's get him on up here.

 4   MR. SCHUTZ: Your Honor, will you make a

 5 statement to the jury as to why we're calling someone out

 6 of order in the process?

 7   THE COURT: Yes.

 8   MR. CORDELL: Actually, your Honor, I can do

 9 one better. I'd like to make a brief interim statement

10 and introduce Mr. Fadell.

11   THE COURT: All right. I'm going to state it

12 first; and then if you want to make a statement, I'll let

13 you do that.

14   MR. CORDELL: Thank you, your Honor.

15   (The jury enters the courtroom, 1:08 p.m.)

16   (The oath is administered.)

17   THE COURT: All right. Ladies and

18 gentlemen -- and this is partly because of the delay

19 yesterday when I wasn't here -- Mr. Fadell, who is going

20 to be the next witness, would normally have probably been

21 brought on a little bit later in the case from Apple's

22 side. He's working for Apple. But because of his

23 schedule, I've allowed him to be called out of order; and

24 then we'll go back to the cross-examination of

25 Dr. Almeroth.

1055

1   So, we're going to hear his testimony. It's a

2   little bit out of order. You just need to understand

3   that normally he would have probably been called during

4   Apple's case, but a plaintiff can call people working for

5   the other side during their case if they wish. So, it's

6   not that unusual. It's just in this case we're

7   interrupting the presentation of Dr. Almeroth.

8   And then you had a brief interim statement?

9   MR. CORDELL: Thank you, your Honor.

10   Again, ladies and gentlemen, Ruffin Cordell on

11   behalf of Apple.

12   The court is exactly correct. Mr. Fadell has

13   another job now; and, so, we have to get him back by

14   tomorrow. So, we appreciate the jury's patience in

15   hearing him sort of in the middle of other things.

16   I think you're going to enjoy meeting

17   Mr. Fadell. He is the person who led the original design

18   team that invented the iPod. He's going to take you

19   through all of the challenges that he faced. He's going

20   to take you through the ways that they overcame those

21   challenges, focusing on problems and finding ways to

22   overcome them.

23   He actually left Apple's employment in 2010.

24   He started in early 2001 and left in 2010. And he's got

25   another job now, and he's got a family and a lot of

1056

1 demands on his time. And what we've found over the last

2 couple of years is that as Apple was embroiled in

3 different kinds of legal issues, we needed someone who

4 knew the history of these products; and we kept turning

5 back to Mr. Fadell over and over again. But as I said,

6 he's got -- you know, his time is how he makes a living;

7 and he's got a family and other commitments. And while

8 he's always, you know, good to work with and he's very

9 good at answering our questions, what we discovered is

10 that we're really sort of taking advantage of him. And,

11 so, not too long ago Apple and Mr. Fadell reached an

12 agreement whereby he would be a consultant and we would

13 actually pay him for the time that he's giving us to

14 answer questions and work on these legal matters.

15   And I don't want to minimize it. It's a

16 significant amount of money and I'm sure Mr. Schutz will

17 bring this out, but his salary under his consulting

18 agreement with Apple is $10,000 a month. But again, he's

19 a very, very capable fellow; and I think once you meet

20 him --

21   THE COURT: Okay. Counsel, counsel, your

22 opinion on his capabilities or his credibility is not

23 appropriate. You can go over what you expect.

24   Ladies and gentlemen, obviously the attorneys

25 for both sides thinks their own witnesses are very

1057

1 credible and very capable; but you're going to make that

2 ultimate decision based on the questions that are asked.

3 Okay?

4   MR. CORDELL: Thank you, your Honor. I'm

5 happy to have that added.

6   And with that, ladies and gentlemen, let me

7 also introduce Garland Stephens whom you've heard from

8 before but I didn't get a chance to introduce him. He

9 lives in Houston with his wife and two children, and he

10 will produce Mr. Fadell's testimony.

11   THE COURT: All right. Mr. Schutz.

12   MR. SCHUTZ: Thank you, your Honor.

13   DIRECT EXAMINATION OF ANTHONY M. FADELL

14   ADVERSE WITNESS CALLED ON BEHALF OF THE DEFENDANT

15 BY MR. SCHUTZ:

16 Q.   Mr. Fadell, we have never met, have we?

17 A.   Not to my recollection.

18 Q.   If you could, make sure that that mic is in front

19 of you. Sometimes sound can just die here.

20 A.   Okay. Is that better?

21 Q.   That's better.

22   So, we've never met before, have we,

23 Mr. Fadell?

24 A.   No, we haven't.

25 Q.   I just wanted to be clear about, you know, what

1058

1 your role is here and what it's not. You are not coming

2 to Beaumont to testify about whether or not Apple

3 infringes or does not infringe the two patents-in-suit in

4 this case, correct?

5 A.   Can you please state the question again?

6 Q.   Yes. You are not coming here in this courtroom to

7 testify about whether Apple infringes the patents of

8 Personal Audio or whether Apple does not, right?

9 A.   I don't think so, no.

10 Q.   You're not an expert witness with regard to patent

11 infringement; is that right?

12 A.   I'm not a patent attorney, no.

13 Q.   You are also not coming here to Beaumont to

14 testify about whether the Personal Audio patents are

15 valid or invalid, correct?

16 A.   That's correct. I've never seen the patents.

17 Q.   You've never seen the patents-in-suit; is that

18 right?

19 A.   That is correct.

20 Q.   Mr. Fadell, you at one time were employed by

21 Apple. And if my reading of the documents that I've seen

22 are correct, that started sometime in early 2001,

23 February 2001 or so; is that right?

24 A.   In February, 2001, I became a contractor for

25 Apple.

1059

1 Q.   Contractor. Did there come a time when you became

2 an employee of Apple?

3 A.   About six to eight weeks later, in the middle of

4 April, I became an employee of Apple.

5 Q.   And then you left Apple's employment sometime in

6 2010; is that correct?

7 A.   Yes, in about March or April, 2010, I terminated

8 employment with Apple.

9 Q.   And why was that, sir?

10 A.   I had worked on the iPod and the iPhone for many

11 years, and I decided -- we had two small kids and my wife

12 also worked for Apple as well and we had been working so

13 hard. We wanted to see our 1- and 2-year-old more often.

14 Q.   Okay. Now, you very recently entered into a

15 consulting agreement with Apple, the purpose of which was

16 to have you provide some services related to their

17 ongoing litigation, right?

18 A.   Ongoing litigation of a number of cases.

19 Q.   Right. And under the terms of that agreement, you

20 are paid for your time at the rate of $1,000 an hour,

21 right?

22 A.   That's correct.

23 Q.   And if you get over a certain amount of hours,

24 that clicks up to $1,500 per hour, correct?

25 A.   Yes, that's correct.

1060

1 Q.   And there are some other provisions in that

2 agreement, and I'd like to take a look at that. That's

3 in your book. There is a three-ring binder in front of

4 you, sir; and the documents should be organized, I

5 believe, in numerical order.

6   And, so, toward the end there is an exhibit

7 labeled "784." There should be a tab.

8 A.   784? No. I'm sorry. I don't see 784 here.

9   THE COURT: I'm not seeing it in mine, either.

10   MR. SCHUTZ: Your Honor, just a second.

11   Your Honor, I have a copy of that marked up;

12 but I'll have to show the...

13   Your Honor, may I approach the witness?

14   THE COURT: You may.

15   MR. SCHUTZ: Okay.

16 BY MR. SCHUTZ:

17 Q.   Mr. Fadell, I'm handing you a copy of what has

18 been marked as -- Mr. Fadell, I'm going to swap that copy

19 back for this copy; and I'll see if I can find -- see if

20 we have any additional copies.

21 A.   All right.

22   THE COURT: And just for the record, that's

23 Plaintiff's Exhibit 784?

24   MR. SCHUTZ: Yes, it is.

25   This was produced to us by the defendants

1061

 1 yesterday, I think; so, they have copies, your Honor.

 2 And I apologize --

 3   THE COURT: Do you want to show him a copy of

 4 784, though?

 5   MR. SCHUTZ: I'm sorry?

 6   THE COURT: Would you show him a copy of what

 7 you've marked --

 8   MR. SCHUTZ: Yes.

 9   THE COURT: -- as 784?

10   (Off-the-record discussion among counsel.)

11 BY MR. SCHUTZ:

12 Q.   Mr. Fadell, do you have a copy of Exhibit 784 up

13 there?

14   THE COURT: Is that Plaintiff's Exhibit 784?

15   MR. SCHUTZ: Plaintiff's Exhibit 784.

16 A.   Yes, I do.

17 BY MR. SCHUTZ:

18 Q.   And that is the agreement that you recently

19 entered into with Apple relating to your providing

20 services related to litigation, correct?

21 A.   Providing general legal services.

22 Q.   And that agreement covers your time coming down to

23 Beaumont here today, correct?

24 A.   That's correct.

25   MR. SCHUTZ: Your Honor, I move the admission

1062

1 of Exhibit 784.

2   THE COURT: Plaintiff's Exhibit 784?

3   MR. SCHUTZ: Yes.

4   MR. STEPHENS: No objection, your Honor.

5   THE COURT: Plaintiff's Exhibit 784 is

6 admitted.

7 BY MR. SCHUTZ:

8 Q.   Let's just go through a couple of pieces of that,

9 Mr. Fadell. I put it up on the screen. And first of

10 all, this agreement was entered into fairly recently,

11 correct? June 6th, right?

12 A.   That's correct.

13 Q.   And if we go to the last page of that agreement,

14 we can see some signatures on that agreement, correct?

15 A.   That's correct.

16 Q.   And among the signatures on that agreement are

17 yours, correct, sir?

18 A.   Yes. That's my signature there.

19 Q.   And, also, this agreement was signed by Lisa Marie

20 Schull, senior patent counsel for Apple, correct?

21 A.   Yes.

22 Q.   And she's in the courtroom today, right? That's

23 her right there (indicating), that woman in the second

24 row, correct?

25 A.   Yes. That's correct.

1063

1 Q. And, again, under the terms of this agreement --

2 if we go to the second page -- your compensation is set

3 forth here; and it's $10,000 a month, correct?

4 A. That is correct.

5 Q. Whether you work no hours or whether you work ten

6 hours, correct?

7 A. Or if I work a hundred hours.

8 Q. Right. If you work a hundred hours, those hours

9 start adding up. And if in any year -- if in a year of

10 this agreement you work in excess of 120 hours, then you

11 will be paid $1,500 an hour for every hour over 120

12 hours, right?

13 A. Yes. That's correct.

14 Q. And that includes travel time and prep time and

15 the time you're sitting here in the witness chair,

16 correct?

17 A. No, it does not.

18 Q. Does not include travel time?

19 A. It includes travel time, but it does not include

20 any time when I am in deposition or giving any kind of

21 legal testimony.

22 Q. Okay. It only involves the preparation for that

23 and meeting with Apple's counsel and going over --

24 talking with them, right?

25 A. That is correct.

1064

1 Q.   All right. And -- all right. Now, Mr. Fadell,

2 you began working for Apple in 2001 in February. Can you

3 tell us briefly what the -- as you understood it -- the

4 financial condition of Apple was in 2001?

5 A.   Well, I hadn't worked for the company; and I

6 wasn't -- I didn't know any kind of financial details of

7 the company except, you know, the things that I knew,

8 which was, you know, Apple had been, you know, kind of

9 the underdog in the computer world at the time.

10 Q.   And at the time you started working for them,

11 about the only product they had were computers, correct?

12 A.   Well, Apple had many other products, software

13 products as well, monitor products. So, they had all

14 kinds of different things, not just Macintosh computers

15 that were for sale.

16 Q.   Right. Related primarily to computers, though,

17 correct, sir?

18 A.   I don't know of all of Apple's products; but I

19 think so, yes.

20 Q.   Great. Apple had come off -- and you became aware

21 of this at some point after you started working there --

22 a not particularly good financial year the year before,

23 correct?

24 A.   I'm not familiar with Apple's financial

25 performance in previous years.

1065

1 Q.   Okay. Did you ever testify in your deposition

2 that they were, quote, hurting as a company?

3 A.   Well, I think from a market standpoint of having

4 only one to two percent market share, that's a very

5 difficult position to be in.

6 Q.   Okay. Now, you were hired by Apple to lead the

7 development of an MP3 product, correct?

8 A.   Yes, I was.

9 Q.   All right. At the time that you were -- well, you

10 started as a consultant and then became an employee, just

11 to make that clear. But you were brought onboard to help

12 develop an MP3 product for Apple, right?

13 A.   I was brought onboard and signed a contract. I

14 didn't know what they wanted until after I signed the

15 confidentiality clause and the consulting agreement.

16 Q.   All right. And do you know why Apple was unable

17 to find anybody inside the company who had already been

18 an employee there to lead that project?

19 A.   I don't have any specific knowledge of that.

20 However, I had been a longtime developer of handheld

21 products. My reputation was very well-known in the

22 valley; and, so, therefore, I believe they sought me out

23 because of my reputation and the people I knew.

24 Q.   And because nobody inside Apple had those

25 capabilities or skills that equalled yours, correct?

1066

1 A.   I wouldn't say that. There are very many -- there

2 are many smart people at Apple, and they might have all

3 been busy at the time.

4 Q.   But nonetheless, Apple went outside the company to

5 find somebody to lead this MP3 product, correct?

6 A.   I don't know exactly the processes they used.

7 They may have looked at people internally. All I know is

8 I was hired and -- to contract to do this project.

9 Q.   Let's talk about the time frame from development

10 of this product to launch. You came onboard in February,

11 2001; and the product actually launched in time for the

12 holiday season later that year, correct?

13 A.   Yes, it did.

14 Q.   Is it fair to state that you and your team and the

15 people you worked with at Apple were under some pretty

16 significant time pressure to get this product launched?

17 A.   To be able to do any kind of project in that

18 period of time is really -- you know, it's really

19 difficult to do.

20 Q.   And that includes this product and --

21 A.   Excuse me?

22 Q.   That includes this product and this project,

23 correct?

24 A.   Any hardware-based product and software-based

25 product of this complexity to be done in that amount of

1067

1 time requires a lot of people to help and put this thing

2 together. It's a moon mission, so to speak.

3 Q.   So, for the MP3 product that you were working on,

4 this time frame to start working on it in February and

5 launch it by the holiday season was a very short, tough

6 time frame, correct?

7 A.   There was no stated goal that it had to ship

8 before the holiday season. That was something that I

9 directed the team to do. That was not from executive

10 management.

11 Q.   But that's a goal you met, right?

12 A.   It's a goal I put out there, and it's a goal I

13 met.

14 Q.   Is it fair to say that in working on this product

15 you tried to be as efficient as you could?

16 A.   Could you be more specific on "efficient"?

17 Q.   Sure. Is it fair to state that every time you

18 could, you would leverage third parties whenever possible

19 for heavy lifting?

20 A.   There were multiple technologies and products

21 brought to bear to bring the iPod out; and, so, what we

22 did was use the best of breed. Some of that was inside

23 of Apple; some of that was outside of Apple. And I

24 gathered all of the different parts and pieces necessary

25 together and led that joint team. Some things came from

1068

1 Apple; some things came from outside of Apple.

2 Q.   In your book you should have a copy of

3 Exhibit 271. Okay?

4 A.   Yes. I have it here.

5 Q.   Defendant's Exhibit 271 is called the

6 "Dulcimer/P68 Product Proposal Review." Do you see that?

7 A.   Yes, I do.

8 Q.   And the Dulcimer/P68 was the code name for the MP3

9 player you were working on, correct?

10 A.   That's correct.

11 Q.   And is this a document that either you authored or

12 somebody under your direction put together?

13 A.   This was something under my direction. I didn't

14 create this whole document.

15 Q.   Okay. So, if you go about five pages in, you will

16 see a bullet point there that talks about a vendor

17 strategy where it says -- are you with me there? First I

18 want to get you to page 5.

19 A.   Yes.

20 Q.   And it says, "Apple engineering provides the

21 value-added Sw, HW Innovations." And then underneath

22 that it says (reading) leverage third parties whenever

23 possible for, quote, heavy lifting, closed quote. Do you

24 see that?

25 A.   Yes, I see that.

1069

1 Q.   Let's now go back, Mr. Fadell, and start with when

2 you came onboard to Apple. And there is another exhibit

3 that you should have in your book. I believe it's 753.

4 It's Plaintiff's Exhibit 753. Let me know when you find

5 that, sir.

6 A.   I have it here in front of me.

7 Q.   And this is a document that you put together,

8 correct?

9 A.   Yes, this is.

10 Q.   And I don't believe this is objected to. I'd like

11 to publish it.

12   So, Exhibit 753 is your -- is a time sheet, a

13 detailed time sheet, right?

14 A.   Yes.

15 Q.   So, let's talk about a few of the entries in this

16 time sheet. You started on -- is February 16th your

17 first day in the office?

18 A.   I believe so. It says "kickoff meeting." It was

19 probably the first time I was contracted. I had gone to

20 Apple several times before that to be interviewed and to

21 negotiate the contractor agreement.

22 Q.   But in terms of your starting to work on this MP3

23 project, February 16th is the kickoff, right?

24 A.   That's what it says. It was about that time; so,

25 I believe so.

1070

1 Q.   All right. Now let's skip ahead to the time entry

2 you made -- some other time entries. Let's enlarge a

3 couple of them here, and let's start with the

4 February 23rd entry. It's about a week later after the

5 kickoff meeting; and it says here, "demo equip purchase

6 list." Do you see that?

7 A.   Yes.

8 Q.   And what's that?

9 A.   Well, this was ten years ago; so, I don't exactly

10 know what that is. But around this time I went out and I

11 purchased -- I made a list of things that I would like to

12 purchase and had it approved by my manager at the time to

13 go off and look at these products that I thought were

14 interesting products.

15 Q.   And you had another entry that says "ordering demo

16 units," correct?

17 A.   Yes. After I had obtained approval, then I went

18 off and I ordered that equipment.

19 Q.   Right. Now, when you were at Apple, did you have

20 either an office or a cubicle at someplace where you

21 worked?

22 A.   No, I did not.

23 Q.   Okay. Did you have a computer that you were

24 assigned?

25 A.   I had to use my own computer at the time.

1 Q.   And this coming up with which units to order --

2 how did you figure out which demo units to order?

3 A.   Well, I've been in the business a long time; and

4 so, you know, the natural process is to go out and find

5 products in the similar industry to look at and to

6 evaluate.

7 Q.   So, your project was to develop an MP3 player for

8 Apple, correct?

9 A.   That's correct.

10 Q.   In February 2001, they had not been in this

11 market, correct?

12 A.   Apple had not been in the market.

13 Q.   Other people --

14 A.   But I had been.

15 Q.   You had been; and other manufacturers had been in

16 the market, correct?

17 A.   That's correct.

18 Q.   And one of the things you did was gather MP3

19 players that other manufacturers had made and sold,

20 correct?

21 A.   I gathered many things, not just MP3 players.

22 Q.   Well, I understand. But you gathered MP3 players,

23 correct?

24 A.   Yes, I gathered some MP3 players.

25 Q.   And some of those MP3 players you tore apart,

1 correct?

2 A.   Yes, I did.

3 Q.   You also ordered other types of devices, PDAs and

4 other handheld devices; is that right?

5 A.   That's correct.

6 Q.   And you might have ordered and looked at as many

7 as 40 such different types of devices, right?

8 A.   Yes. This is all standard.

9 Q.   Standard in terms of kind of repetitive research

10 to see what other people are doing?

11 A.   Exactly. I did it at all of the jobs I've had

12 previously.

13 Q.   All right. You weren't developing this iPod in

14 some closed, clean room with no influence from the

15 outside.

16 A.   If I'm familiar with the term "clean room" as you

17 are, no, there was no clean room --

18 Q.   All right.

19 A.   -- *per se*.

20 Q.   So, on the next day, February 24th, you ordered

21 some additional demo units. Is that a correct thing as

22 reflected in your time entry?

23 A.   That's what it says.

24 Q.   All right. And then down on February 27th, just a

25 couple things to ask you about. You had some meetings,

1073

1 correct? You met with PortalPlayer, right?

2 A.   I had many meetings over my contracting time.

3 Q.   Right. I understand that.

4 A.   I had 30 or 40 meetings.

5 Q.   30 or 40 meetings?

6 A.   Yeah.

7 Q.   I understand that. I'm just going to ask you

8 about a couple that you made specific notation of --

9 A.   Sure.

10 Q.   -- in your time sheet here.

11 A.   Sure.

12 Q.   And one of them is with PortalPlayer, right?

13 A.   That's correct.

14 Q.   And PortalPlayer is a company that provided

15 microprocessors; and they were a potential supplier for

16 the MP3 product, right?

17 A.   PortalPlayer was an unproven start-up. They had

18 never produced a chip before in their past. It was a

19 group of 40, 50 people. And I went and met with them on

20 a wild chance that they might have some software and some

21 silicon that might be used in this project.

22 Q.   And, in fact, they did have software and silicon

23 that was used by Apple in this project, right?

24 A.   Yes. This wild chance that I took actually turned

25 out to be quite good for the project.

1074

1 Q.   Yeah.   So, again you went outside of Apple, found

2 some people that could develop some technology for Apple,

3 and you brought that inside, right?

4 A.   They were already developing it.   The technology

5 was already under development.

6 Q.   So, you went and basically bought something off

7 the shelf and brought it to Apple?

8 A.   It was something that was close to being ready,

9 but it needed to be modified per our specification so

10 that we could then build the product.

11 Q.   Now, when you say "build the product," you mean

12 put together the MP3 player?

13 A.   To design it, to engineer it, to build it, and to

14 test it and to ship it.

15 Q.   Right.   But the central processing unit part, that

16 was provided by PortalPlayer, right?

17 A.   There are -- the PortalPlayer chip was comprised

18 of many other third-party things inside the chip itself.

19 Q.   But not --

20 A.   So, PortalPlayer took those pieces -- just like we

21 took pieces outside of the company to build the iPod,

22 PortalPlayer took pieces outside of their company and put

23 it into their product until they gave it to us.

24 Q.   So, we've got PortalPlayer making a chip; and they

25 used stuff from some other folks, right?

1075

1 A.   That's correct.

2 Q.   And then they put that together; and then they

3 gave it to Apple, right?

4 A.   Sold it to Apple.

5 Q.   All right. Now, then you also met with a company

6 called "Cirrus Logic." That was another potential

7 supplier of a similar type of, as you call it, silicon or

8 a chip, right?

9 A.   Yes. They were a more proven company. They had

10 been around for many years, and they had shipped things

11 previously.

12 Q.   And then it also says here "Meet with Jeff

13 Robbins." Who is Jeff Robbins?

14 A.   Jeff Robbins was at the time and still is head of

15 the *iTunes* software package that's on the Mac and on the

16 PC.

17 Q.   During the course of this -- your work on this MP3

18 project, did you have several meetings with Mr. Robbins?

19 A.   Yes, I did.

20 Q.   Was he intimately involved in the project?

21 A.   He had a full-time job. So, "intimately," you

22 know, he would -- we would check in with each other

23 probably, you know, once every week or once every other

24 week.

25 Q.   All right. Now I'd like to go to just look

1076

1 quickly at some entries that you had for the March 2nd

2 and 3rd. And a couple references there to portables

3 setup/teardown. Do you see that?

4 A.   Yes.

5 Q.   And that reflects your, you know, looking at them,

6 perhaps even disassembling some of them, and making some

7 notes and the like, correct?

8 A.   Frankly, I don't know what this is exactly

9 referring to.

10 Q.   Okay. So, you don't remember what "portables

11 setup/teardown" refers to?

12 A.   No. I don't know exactly what that refers to.

13 Q.   But separate and apart from your time entry, you

14 did do that, correct?

15 A.   Oh, yes. Yes, I did.

16 Q.   Let's now go to Plaintiff's Exhibit 754. And this

17 is a detailed time sheet.

18   MR. SCHUTZ: I believe this is on the

19 admissible list also, your Honor.

20 BY MR. SCHUTZ:

21 Q.   So, 754, some additional time entries reflected

22 here. And I'll enlarge some of this and -- there are

23 several references here. As you said, you had lots of

24 meetings. And among the companies listed that you met

25 with were Alps, Cirrus Logic, Samsung, Toshiba, and other

1077

1 companies, correct?

2 A.   Yes.   Yes.   I had phone calls or meetings,

3 face-to-face meetings, many different things.

4 Q.   Okay.   And then at the end there is a reference

5 here to (reading) prepare and meet with Apple executive

6 team and Jeff Robbins.   Who was on the Apple executive

7 team?

8 A.   If it's the meeting that I believe this is

9 referring to -- I don't know if it was exactly that

10 meeting.   There was a meeting with -- I was in it.   Jeff

11 Robbins, Stan Ng, Jon Rubinstein who was my manager at

12 the time.   He signed the contractor agreement with me.   I

13 had Phil Schiller in the room, Sina Tamaddon, and Steve

14 Jobs.

15 Q.   Okay.   Now, Steve Jobs was at the time and still

16 today is the chief executive officer of Apple, right?

17 A.   Currently I believe he is on leave.

18 Q.   Okay.   He may be on leave; but he at the time was

19 the chief executive officer, right?

20 A.   That's correct.

21 Q.   So, ultimately whoever your boss was up the line

22 and boss' boss, he was the top boss?

23 A.   Jon, who was my manager at the time, reported to

24 Steve.

25 Q.   Okay.   So, your boss' boss was Steve Jobs?

1078

1 A.   That's correct.

2 Q.   All right. Now, you also prepared a few other

3 documents relating to your looking at other MP3 players,

4 right?

5 A.   (Pausing.)

6 Q.   Why don't you take a look at Plaintiff's

7 Exhibit 755.

8 A.   All right.

9   MR. SCHUTZ: This is on the admissible list as

10 well.

11 BY MR. SCHUTZ:

12 Q.   Do you have it there, Mr. Fadell?

13 A.   Yes, I do.

14 Q.   All right. You put this document together,

15 correct, sir?

16 A.   I don't believe I did.

17 Q.   Was this document put together under your

18 direction?

19 A.   I do not recall that it was.

20 Q.   Have you seen this document before?

21 A.   Not before -- I don't recall that I have before

22 this trial.

23 Q.   All right. There are MP3 players listed in this

24 document. Are those among the players that you looked at

25 when you ordered other devices and looked to see what the

1079

1 competition was doing?

2 A.   I don't recall exactly which players they were

3 but -- because it was ten years ago. But a few of them I

4 recognize that are ones I purchased and I looked at.

5 Q.   All right. Now, when you looked at some of these

6 MP3 players, did you look at the functionality that these

7 MP3 players had?

8 A.   In some cases I looked at the functionality, yes.

9 Q.   Okay. Is it -- was it the case back at this time

10 in 2001 that some of those MP3 players had the capability

11 to accept or download playlists and some did not?

12 A.   Yes. Some of them did, and some did not.

13 Q.   Do you know when the first of the MP3 players that

14 you looked at first came on the market?

15 A.   I'm not quite sure I understand your question.

16 Q.   Well, was the Rio one of the first MP3 players?

17 A.   Well, Rio is a company; and they made many

18 different --

19 Q.   Okay.

20 A.   They made many different ones. So, Rio might have

21 been one of the -- not the first but one of the first

22 companies to actually create MP3 players, yes. But they

23 made a whole line of products.

24 Q.   Other than MP3 players?

25 A.   No, no, no, no. I'm saying they made multiple MP3

1080

 1 players and, so, I don't know if they -- they weren't the

 2 first MP3 player company, but they were one of the first

 3 companies that had a line of different products over

 4 years.

 5 Q.   All right. Mr. Fadell, I'd now like you to look

 6 at Plaintiff's Exhibit 745.

 7   MR. SCHUTZ: This, of course, is on the

 8 admissible list.

 9 BY MR. SCHUTZ:

10 Q.   Let me know when you find it.

11 A.   I did.

12 Q.   All right. This is a document with your name on

13 it, right?

14 A.   Well, I don't have the cover page.

15 Q.   You don't have the cover page?

16 A.   No. It's not the complete document.

17 Q.   Okay. I apologize for that. What page does the

18 document start at?

19 A.   It starts at page 2.

20 Q.   All right. Well, I've got the cover page up here.

21 A.   Oh, there you go.

22 Q.   All right. And this is a document that you put

23 together?

24 A.   That's correct. I did.

25 Q.   And that is dated --

1081

1 A.   Well, with Stan.

2 Q.   With Stan.

3   And it's dated April 3rd, 2001, correct?

4 A.   That's what it says here, yes.

5 Q.   And then you had a meeting with Mr. Jobs on

6 April 4th, 2001; is that right?

7 A.   I don't recall the exact time. It was around that

8 time period, but I can't say it was exactly that day.

9 Q.   Is this a document that you showed or used in your

10 meeting with Mr. Jobs?

11 A.   A version of this was used in that meeting, yes.

12 We make revisions to these documents all the time, you

13 know, leading up to and after the meetings. We revise

14 the documents all of the time with our latest knowledge,

15 our feedback we get.

16 Q.   So, this document is -- either was used or was

17 some version of what was used?

18 A.   Correct.

19 Q.   All right. Let's now go to the second -- you have

20 the second page there. Let's go to the second page of

21 this. Okay?

22 A.   All right.

23 Q.   And it says "Market Landscape." Do you see that?

24 A.   Yes.

25 Q.   And among the things it says there is there is a

1082

1 "digital-audio Unit Projections" and then in parentheses

2 it says "IDC." Do you see that?

3 A.   I do.

4 Q.   Is IDC a market research company?

5 A.   Yes, it is.

6 Q.   And they had projections that the digital-audio

7 market could go from 3.3 million units to 26 million

8 units in about five years; is that right?

9 A.   That was their projections. Market research firms

10 are known not to have, you know, very great, you know,

11 predictions of the future.

12 Q.   But you didn't footnote this -- this wasn't

13 footnoted in any way by saying, "Oh, by the way, this may

14 not be a good number."

15 A.   Well, when you put "IDC" next to it --

16 Q.   People know that?

17 A.   Yeah. People in the business understand what

18 market research is. It's projecting the future.

19 Q.   Okay.

20 A.   None of us can do that, that I'm aware of.

21 Q.   So, let's now keep looking at a couple of other

22 things in this document. Let's now go to the next page,

23 Mr. Fadell. And it says, "Window of Opportunity" and

24 "Why Now?" and "growing market." Correct?

25 A.   That's correct.

1083

1 Q.   So, it's a growing market and is it fair to state

2 that your view was that Apple could become the leader and

3 reinforce its "digital hub" strategy?

4 A.   That was the goal that I was told why Apple was

5 wanting to get into this business.

6 Q.   Okay. And then it talks about "innovate." And

7 the first item under innovate is "High Capacity Storage

8 and Small Size," right?

9 A.   That's correct.

10 Q.   Now, the high capacity storage was enabled by a

11 small hard disk drive manufactured by Toshiba, correct?

12 A.   That is correct. It was only from Toshiba. No

13 one else in the world had it.

14 Q.   I understand that, but it wasn't an Apple designed

15 and manufactured hard drive. It was a Toshiba designed

16 and manufactured --

17 A.   That's correct.

18 Q.   And then the long battery life, that was by

19 another manufacturer other than Apple, correct?

20 A.   Well, the battery life is comprised of system

21 design, battery technology, software technology, overall

22 design. So, long battery life -- you know, you can make

23 any product have a really long battery life; but you have

24 to have a really big battery.

25 Q.   Okay.

1084

1 A.   So, what we had to do was design a product that

2 had a small battery, a small hard drive, a -- a user

3 interface, and fit it all in your pocket.   That takes

4 more than just a battery.

5 Q.   Now, let me try this again.   Apple did not design

6 the battery, did they?

7 A.   Apple did not -- well, we did not design the

8 chemistry of the battery.

9 Q.   Okay.   Who made and provided the batteries, sir?

10 A.   There were multiple manufacturers of the battery.

11 Q.   Name one.

12 A.   At the time I believe it was ATL.

13 Q.   Okay.   Let's keep going here.   Here is another

14 thing that talks about key product features; and among

15 the things included again are this high-capacity storage

16 and small size, right?

17 A.   That's correct.

18 Q.   And the small size -- at least some of that credit

19 goes to Toshiba, right, because they came out with this

20 small hard drive?

21 A.   Some of it, yes.

22 Q.   Now let's go to this page here.   I believe it's

23 page 9 of the agreement, and it says "Audio Player" at

24 the top.   Do you see that?

25 A.   This isn't an agreement.

1085

1   Q.   I'm sorry. I'm sorry. Page 9 of the agreement.

2   A.   All right.

3   Q.   So, we're at page 9 of the document; and this page

4   has the heading "Audio Player," correct?

5   A.   That's correct.

6   Q.   And it's got some information on here. Among the

7   information it has is it talks about two possible

8   suppliers of the processor, correct?

9   A.   That's correct.

10 Q.   And --

11 A.   Those -- just for clarification, those aren't just

12 suppliers of processors. They also supply software.

13 Q.   Okay. So, software and hardware?

14 A.   Correct.

15 Q.   And then the display, talking about the display,

16 who provided the display?

17 A.   That was -- on the first iPod that was from a

18 company called "Optrex."

19 Q.   All right.

20 A.   But that was a custom sign that I had them create

21 for us.

22 Q.   So, they manufactured according to your specs?

23 A.   Correct.

24 Q.   But they manufactured it?

25 A.   That's correct.

1086

1 Q.   And then over in the next column you have "device

2 software." Do you see that?

3 A.   That's correct.

4 Q.   And among the things, you've got formats; and

5 there are two specific formats mentioned, the AAC and the

6 MP3 formats, correct?

7 A.   That is correct.

8 Q.   And those were not Apple-designed formats,

9 correct?

10 A.   Those -- they weren't Apple designed, no.

11 Q.   Right. Those formats existed previous, right?

12 A.   That's right. That's why there is an MP3 player

13 market.

14 Q.   And then the next line in here is "Audio Player

15 with playlist editing and effects," correct?

16 A.   Correct. That's what it says. Some of these

17 things did not ship in the iPod actually, though. These

18 were the targets.

19 Q.   But when the iPod shipped, it had the ability to

20 download playlists, correct?

21 A.   Oh, that's correct; but it did not have playlists

22 added in. It had playlists -- that was on the computer,

23 not on the iPod.

24 Q.   I understand. But it had the ability to download

25 these playlists.

1087

 1 A.   That's correct.

 2 Q.   And once they were downloaded, you could navigate

 3 through them, right?

 4 A.   You could navigate through all the different songs

 5 on your iPod, correct.

 6 Q.   Including songs in the playlist, correct?

 7 A.   Correct, yeah.

 8 Q.   Okay. Now let's go to the page -- page 15. And

 9 this page has a device cost analysis, right?

10 A.   Yes.

11 Q.   And --

12   MR. STEPHENS: Your Honor, I object to the use

13 of this page.

14   MR. SCHUTZ: Your Honor, I'd like to point out

15 that this is one of the documents that was produced --

16   THE COURT: All right. Let's pull it down,

17 please. I think we've already discussed this.

18   MR. SCHUTZ: This is the June

19 recently-produced document, your Honor.

20   THE COURT: Is that correct?

21   MR. SCHUTZ: Yes.

22   MR. STEPHENS: It is, your Honor; but the

23 issue is exactly the same as in his --

24   THE COURT: Well, then overruled.

25   *

1088

1 BY MR. SCHUTZ:

2 Q.   Mr. Fadell, I've got up here "Device Cost

3 Analysis." Do you see that?

4 A.   Yes.

5 Q.   And you gathered this information; and among the

6 information you gathered was some information about

7 licenses, correct?

8   MR. STEPHENS: Your Honor, I object to the use

9 of this page for this purpose.

10   THE COURT: Okay. Well, I'll -- let's wait

11 for the next questions. I'll overrule that at this

12 point.

13   MR. STEPHENS: Thank you.

14 BY MR. SCHUTZ:

15 Q.   Now --

16 A.   Excuse me. Did you ask me a question?

17 Q.   No. It's coming.

18 A.   Okay.

19 Q.   So, Mr. Fadell, this information on licenses, is

20 it fair to state that you don't know what type of

21 licenses these were?

22   MR. STEPHENS: Your Honor, I object to this

23 line of questioning.

24   THE COURT: Overruled.

25 A.   There are many different types of licenses --

1089

1 BY MR. SCHUTZ:

2 Q.   I understand. And this doesn't say what type of

3 license. And it seems to indicate there are more than

4 one license, by the plural. Is that a fair assumption?

5 A.   The word is plural; so, I would assume that's what

6 it means, yes, multiple licenses.

7 Q.   And, you know, I didn't write this document and I

8 don't know what's meant here and that's what I'm trying

9 to find out. Do you know what's meant here?

10 A.   Well, when you use some -- like I say, the

11 software that came with the processor, those had

12 licensing terms that came along with that software so

13 that you would have to pay, you know, a license fee to

14 gain access. And the reason why you paid a license fee

15 is to be able to -- because they have a set of software

16 engineers working on the software -- allow that -- that

17 license pays for those software engineers to continue

18 working on it to give us updates and future fixes and bug

19 fixes and those kinds of things.

20 Q.   All right. And this device cost analysis -- you

21 know, at the top, for example, the 5-gigabyte hard drive

22 model -- is it fair to say you've got three different

23 potential models of devices reflected on this page?

24 A.   There's two different types of devices and two

25 different -- and then of one of the devices it had two

1090

 1 different capacities.

 2 Q.   So, you've got two different types of hard drive

 3 devices and one SDRAM?

 4 A.   That's correct.

 5 Q.   And each of these cost items is for one device,

 6 right?

 7 A.   Each one is for -- yes. This is per unit.

 8 Q.   Per unit. Great. Thank you.

 9   Mr. Fadell, I believe you should have in this

10 book plaintiff's exhibit -- I think it's Plaintiff's

11 Exhibit 33. Would you see if you have that in your book?

12 I'm sorry. 36.

13 A.   36? Yes, I have that.

14 Q.   Actually what I'm going to do is have you go to --

15 do you have Plaintiff's Exhibit 36 there?

16 A.   Yes. I have it here in front of me.

17 Q.   All right.

18   MR. SCHUTZ: This is on the admissible list,

19 your Honor.

20 BY MR. SCHUTZ:

21 Q.   Plaintiff's Exhibit 36 has your name on it,

22 correct?

23 A.   Yes, it does.

24 Q.   And is it fair to assume you authored this

25 document?

1091

1 A.   Yes. I did author this document, and versions of

2 it.

3 Q.   All right. It's a relatively short document; and

4 what I'd like to do is go to the page numbered 5 of 6.

5 A.   5 of 6. All right.

6 Q.   I've got it on the screen here, and it shows --

7 appears to show a photo of a Samsung Photo YEPP; is that

8 right?

9 A.   That's correct.

10 Q.   And you were able to get your hands on one of

11 these, correct?

12 A.   This device was only available in Korea at the

13 time; and by asking someone at Apple, they were able to

14 acquire that in Korea.

15 Q.   Right. So, you were able to get your hands on

16 this device, right?

17 A.   Yes, I did.

18 Q.   And you somehow either took a picture or imaged it

19 and you put it in this document, correct?

20 A.   Or I got it from an image that was on the Web,

21 because I hadn't gone to Korea in a long time. So, I

22 found it, I believe, on the Web.

23 Q.   And these words up here that say "similar looking

24 device," those are your words, sir; is that right?

25 A.   Well, I typed the document. But I believe this is

1092

1 more about the form factor being somewhat similar to the

2 device so you could pick it up and hold it and you could

3 see how it would feel and fit in your pocket.

4 Q.   You mean the form factor for what ultimately

5 became the iPod.

6 A.   Exactly. So, it was just, you know, what's the

7 right weight, what's the kind of device that would be

8 similar. That's what that was about.

9 Q.   Did you ever work with Chris Wysocki?

10 A.   Chris Wysocki? I never specifically worked

11 side-by-side with him, but he maybe came to a few of the

12 meetings that I was in. But we never worked directly

13 with each other, very closely.

14 Q.   What was his role?

15 A.   I believe his role was a software engineer that

16 was on Jeff Robbins' team. I don't know if he was a

17 manager or an individual contributor or maybe both.

18 Q.   As this project continued and as the months passed

19 by, were you getting excited about it?

20 A.   Was I getting excited about it?

21 Q.   Yes.

22 A.   You know, just in the amount of time that we were

23 working on it, I was very intensely involved in the

24 project and -- when I set out and commit to do something,

25 I deliver. That's what I do.

1093

1 Q.   Were you excited about actually bringing this

2 product to market?

3 A.   I didn't really have a lot of time to think about

4 what it could be. What we had was every day we had

5 problems. We had issues. We had things of that nature.

6 So, it was really about getting the project done. It's a

7 very, very stressful time.

8 Q.   Okay. So, when you got it done and it launched,

9 were you excited then?

10 A.   I was excited it was done.

11 Q.   I'm sure you were.

12 A.   And then the stress came over of "Now you made

13 some. Do they actually work, and are people not going to

14 return them?"

15 Q.   Right.

16 A.   And, so, you have another level of stress on there

17 going "Please, please work. My head will be on the

18 chopping block if they don't." It's a lot of money.

19 Q.   And then you probably have the additional level of

20 stress of Mr. Jobs saying, "Now start working on

21 Version 2."

22 A.   Yes. Within minutes of --

23 Q.   Right.

24 A.   -- launching the first one.

25 Q.   Right. And did you think it was going to be a

1094

1 successful product?

2 A.   I guess I should answer it differently, as I

3 wasn't sure I was ever going to really take this job to

4 do this product.

5 Q.   No. I understand. But we're now -- let's put

6 some date on this. It's October 23rd. There is a press

7 release announcing the launch of this product. Did you

8 think it was going to be successful?

9 A.   In my career at that point, I had been working 12

10 years doing these types of products; and I've shipped

11 seven, eight different products in my career at that

12 point similar launches with similar innovation, things of

13 that nature. So, I had -- how could I say this? I've

14 been weathered. So, when I was younger, I would get

15 incredibly excited and go "This is going to be a

16 world-changing success" and then it fell flat. So, I got

17 very used to kind of working really hard on something and

18 it was a critical success, that people in the industry

19 thought it was good; but it was not a commercial success

20 where people actually purchased the product.

21   And, so, for me, being weathered by those

22 seven different experiences, you kind of just get

23 tempered to go "Okay. We did a good job. I hope it's

24 going to be successful." But to say, "Whoa, it's going

25 to be a smash success," I learned a long time ago that

1095

1 many things that you do in this world are not a success.

2 Q.   And I appreciate that. My question is really a

3 lot simpler than that. On October 23rd when the press

4 release came out announcing the project, did you think it

5 was going to be successful? You.

6 A.   Me personally --

7 Q.   You personally.

8 A.   -- I believed it was going to be a critical

9 success. I didn't know if it was going to be a business

10 success.

11 Q.   Okay. You were hoping it would be a business

12 success?

13 A.   I only take projects that I hope are going to be

14 successful.

15 Q.   And do you know somebody named Keith Ugone?

16 A.   Could you spell the last name?

17 Q.   U-G-O-N-E.

18 A.   Keith Ugone?

19 Q.   Yeah.

20 A.   I'm sorry. I don't.

21 Q.   He's actually sitting way back --

22   MR. SCHUTZ: Raise your hand, Mr. Ugone.

23 BY MR. SCHUTZ:

24 Q.   See him back there?

25 A.   Yes, I see him back there.

1096

1 Q.   Have you ever talked with him?

2 A.   I didn't even know the name; so, I don't think --

3 and I don't recognize the face. So, I don't think so.

4 Q.   So, you've never talked with him?

5 A.   No.

6 Q.   Let's go now to a final exhibit that I have some

7 questions to ask you about, and it's Plaintiff's

8 Exhibit 377. Find that in your book, please.

9 A.   Okay.

10 Q.   And this is the press release that accompanied the

11 launch of the iPod, right?

12 A.   That's correct.

13 Q.   And this is the first public announcement to the

14 consuming public about the iPod, right?

15 A.   I believe so, yes.

16 Q.   And in this press release, among the -- did you

17 see this before it went out?

18 A.   Let me think. I'm not sure. Sometimes I'm asked

19 to review press releases; sometimes I'm not. But I was

20 so low-tier at that time that they usually don't put this

21 stuff in front of me to review.

22 Q.   Did you see this press release at or about the

23 time it came out?

24 A.   Yes. Yes.

25 Q.   At or about the time it came out and you first saw

1097

1 it, did you ever say to anybody, whoa, that's wrong.

2 There's something not right in this press release?

3 A.   Not to my recollection.

4 Q.   All right. And one of the things -- let's just

5 talk about a couple things in this press release. Talks

6 about the ultra portable design, fits in your pocket,

7 ease of use. And then it also refers to being able to

8 automatically download all your *iTunes* songs and

9 playlists, right?

10 A.   That's what it says, yes.

11 Q.   And the device had that capability, correct?

12 A.   That's correct.

13 Q.   And it had that capability from the beginning,

14 correct?

15 A.   That's correct.

16 Q.   You worked at Apple up until 2010, right?

17 A.   That's correct.

18 Q.   Did you ever think about going to your boss and

19 saying, "Look, this whole idea of being able to download

20 playlists and navigate through them, let's just get rid

21 of that. We don't need that on the iPod"? Did you ever

22 think about saying that to your boss?

23 A.   I believe there were certain features that I

24 didn't believe in but I was told that we should

25 implement. And playlists are not something that I use.

1098

1 Q.   Okay. But did you ever go to your boss and say,

2 "Hey, look, let's just get rid of the playlists?"

3 A.   I go to my boss and the various people in

4 marketing and I try to get rid of a lot of features to be

5 able to ship a product.

6 Q.   I apologize. My question wasn't clear. I'll try

7 again.

8   Did you ever go to your boss and say, "Let's

9 get rid of the ability of the iPod to download

10 playlists?"

11 A.   I did not do that because I had seen other

12 products that have downloaded playlists; and if we

13 removed that, it would be a problem for the product to be

14 competitive in the marketplace. Playlists are a standard

15 thing; and they've been around for, you know, over a

16 decade.

17 Q.   And, so, having an audio player that could receive

18 and download playlists, that particular feature being

19 able to receive or download those playlists, was a

20 competitive necessity, right?

21 A.   If you mean by competitive necessity would it be a

22 successful product and people would review it and look

23 kindly on it, yes, I would say that.

24 Q.   What about the --

25   THE COURT: Okay. Counsel -- well, go ahead.

1099

1 Keep going.

2   MR. SCHUTZ: I've just got one question, your

3 Honor.

4 BY MR. SCHUTZ:

5 Q.   What about the "skip forward" or "skip back"

6 buttons? Did you ever think about taking those off?

7 A.   Those were already on CD players and various other

8 equipment. Those are standard functions that you would

9 have to have.

10 Q.   I understand but -- well, wait a minute. Did

11 you -- you have to have those?

12 A.   Well, actually we considered removing those; but

13 we didn't. We considered removing everything to make the

14 simplest product possible, but at some point it breaks.

15 So, you remove everything, Occam's razor.

16 Q.   So, it's fair to state that you've already gone

17 through the process of what can we take out and what do

18 we need to leave in -- you continually go through that

19 process?

20 A.   We continually go through a leading process of

21 what should stay in and what shouldn't; and,

22 unfortunately, in some cases we shipped the iPod without

23 the things we wanted in it as well.

24 Q.   Thank you very much.

25   MR. SCHUTZ: I pass the witness, your Honor.

1100

1   THE COURT: Mr. Stephens?

2   MR. STEPHENS: Thank you, your Honor.

3   CROSS-EXAMINATION OF ANTHONY M. FADELL

4   BY MR. STEPHENS:

5   Q.   Mr. Fadell, I'd like to get a couple things out of

6   the way right up-front.

7   A.   Sure.

8   Q.   Mr. Schutz asked you about disassembling various

9   devices. Did you copy anything out of those devices?

10   A.   In fact, when I opened those devices and other

11   types of devices, I learned what not to do. There were a

12   lot of different products that were using old parts and

13   old technology. And if you look at the iPod and you look

14   at the parts that were inside the iPod, there was nothing

15   that transferred from those products over from a hardware

16   point of view over to that. We used all new processors,

17   things that had never shipped before. So, the

18   innovations were inside the product itself.

19   Q.   Now, Mr. Schutz also made it sound like you just

20   went out and bought the parts off the shelf and put them

21   together kind of like going to Home Depot and generate

22   the iPod that way. Is that a fair characterization?

23   A.   Absolutely not. We had -- many of the parts in

24   there were custom, specified by us and then manufactured

25   by people around the world to put into this product.

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1 Q.   Okay. With that, I'd like to back up a little bit

2 and ask you a few questions about yourself and then kind

3 of draw out, if you will, the story of the development of

4 the first iPod.

5 A.   Okay, sure.

6 Q.   Where did you grow up?

7 A.   Well, I was born in Detroit, Michigan; but I went

8 to 12 different schools in 15 years and lived all around

9 the U.S.

10 Q.   And where did you go to high school?

11 A.   I went to three different high schools, two of

12 them here in the state of Texas.

13 Q.   Where was that?

14 A.   In -- the two high schools were in Plano, Texas.

15 Q.   Did you play any sports?

16 A.   I played football.

17 Q.   Were you any good at it?

18 A.   I was a Yankee. I'm grown small. They're too big

19 around here; so, I didn't do very well. And got hurt

20 subsequently.

21 Q.   Where did you go to college?

22 A.   I went to college in Michigan at the University of

23 Michigan in Ann Arbor.

24 Q.   What did you study there?

25 A.   I graduated in 1991 as a bachelor of computer

1102

1 engineering, which is a combined major of computer

2 science and electrical engineering double major.

3 Q.   Are you married?

4 A.   Happily married to my wife for nine years and I

5 have two children, two boys, 3 and 4.

6 Q.   What inspired you to become an engineer?

7 A.   From my earliest moments as a kid, my grandfather

8 would take me aside and basically teach me to build bird

9 houses. I started playing with electricity when I was 4

10 years old, putting in light switches in sockets, building

11 go-carts with him in the summer; and then he helped me

12 buy my first computer.

13 Q.   And what kind of computer was that?

14 A.   It was an Apple II in 1979.

15 Q.   Now, I think you have already testified you last

16 worked at Apple in 2010; is that right?

17 A.   That's correct.

18 Q.   What was the highest title that you held during

19 the time you were at Apple?

20 A.   I was senior vice-president of the iPod division,

21 responsible for the iPod and the iPhone.

22 Q.   And when you say "responsible for the iPod and the

23 iPhone," what kind of responsibilities did you have?

24 A.   I built and led the teams that created what you

25 now know of as the iPod and the iPhone and the

1103

1 specifications on all the software and hardware.

2 Q.   Was that an engineering position?

3 A.   It was mainly an engineering position, but there

4 was a lot of crossover into business and marketing and

5 those kinds of things.

6 Q.   How many different iPod products were you involved

7 with supervising?

8 A.   It's tough to count. It's easiest to count by

9 generations. So, I was responsible for 18 generations of

10 iPod and 3 generations of iPhone.

11   THE COURT: Okay. Counsel, we're going to

12 take a break.

13   Ladies and gentlemen, I'll ask you to be back

14 at 20 past.

15   (The jury exits the courtroom, 2:05 p.m.)

16 we'll be in recess until 20 past.

17   (Recess, 2:05 p.m. to 2:20 p.m.)

18   (Open court, all parties present, jury not

19 present.)

20   MR. HOLDREITH: Your Honor, before the jury

21 comes in, may I alert the court to something?

22   When Dr. Almeroth comes up, there are just a

23 couple of exhibits in the cross book that I'm concerned

24 about. One is a printout from the Web that is not on

25 defendant's exhibit list.

1104

1   MR. STEPHENS: Your Honor, I'll either just

2 ask him questions about it or I'll lay the foundation and

3 move it in at that point.

4   THE COURT: Okay.

5   MR. HOLDREITH: Another is a document related

6 to the reexamination. I understand Mr. Stephens will be

7 careful not to mention the reexam.

8   MR. STEPHENS: I'm just going to ask him

9 questions about what he said, not about what it was for

10 or anything like that.

11   THE COURT: Yeah. That doesn't slip out. I'm

12 telling you right now. You do not let slip out that

13 there is --

14   MR. HOLDREITH: Sorry. That's a different

15 guy. That's Dr. Almeroth.

16   THE COURT: Oh, okay. Different guy.

17   THE WITNESS: What? Whatever I did, I'm

18 sorry.

19   (The jury enters the courtroom, 2:21 p.m.)

20   THE COURT: Whoever else it was needs to

21 listen to that, too.

22   Mr. Stephens.

23   MR. STEPHENS: Thank you, your Honor.

24 BY MR. STEPHENS:

25 Q.   Mr. Fadell, I think you testified when Mr. Schutz

1 was talking to you that you had prior experience in

2 portable electronics before you came to Apple; is that

3 right?

4 A.   Yes, that's correct.

5 Q.   What kind of experience did you have?

6 A.   Well, before I came out to Silicon Valley in 1991

7 I had three start-up companies through high school and

8 college where I was creating chips and software and

9 various products for sale.

10   And then after I became -- I got my degree, I

11 moved out to Silicon Valley where I started for a company

12 called "General Magic," doing personal digital

13 communicators there, which was a precursor to the iPhone

14 as you know it today.

15 Q.   What kind of products did General Magic make?

16 A.   General Magic was a start-up company. It made

17 personal communications systems. These were wired and

18 wireless communication terminals. It had email. It had

19 games. It had a graphical interface built for consumers.

20 It had audio. It had automation. They were very

21 revolutionary at the time, and they were shipped by

22 companies like -- we made the platform, and they were

23 shipped by companies like Sony and Motorola and

24 Panasonic. Unfortunately, the company while doing

25 groundbreaking work was an utter failure.

1106

1   Q.   Could you name any specific products that were

2   sold to the public using the General Magic technology you

3   worked on?

4   A.   Sure. The Sony Magic Link, the Motorola Envoy,

5   Panasonic NeoNet. There's a range of different products.

6   Q.   Was there any connection between General Magic and

7   Apple?

8   A.   Apple -- actually there's a couple -- one formal

9   and one informal. The formal one was -- General Magic

10 was a spin-off of Apple. I took some of the engineers

11 there, and Apple gave them money to create this thing

12 called the "Pocket Crystal." And some of the individual

13 people who started the company were actually the creators

14 of the Macintosh, the actual Macintosh computer that we

15 use today. It was very different in 1984, but they were

16 part of the original team that created the Macintosh.

17 Q.   And when were you at General Magic?

18 A.   I was at General Magic from 1991 until 1995.

19 Q.   Did you have experience with portable electronics

20 after General Magic and before you came to Apple?

21 A.   After General Magic -- actually during my time at

22 General Magic, I created a business plan and designed a

23 product for a next-generation personal communication

24 device; and I put it in front of the CEO of Philips

25 Electronics. And over dinner the CEO was convinced and

1107

1 took me on and said, "You're going to build a business

2 group for us." I was 25 at the time and built a team to

3 create the Phillips Velo and Phillips Nino.

4 Q.   And what was the Velo?

5 A.   The Phillips -- excuse me?

6 Q.   What was the Phillips Velo?

7 A.   Oh, the Velo was a pocketable computer, digital

8 assistant. You would flip it open and it had a little

9 keyboard and had a screen on it and had a modem for doing

10 email. That came out in 1996.

11 Q.   And I think you mentioned another product. What

12 was the other one?

13 A.   There were various products. There were various

14 families. But the other family of product was the

15 Phillips Nino, which was a small device without a

16 keyboard. It just had a display, and you could write

17 with a stylus on it. It also had a modem in it. You

18 could do all kinds of various, you know, kind of PDA-like

19 functions.

20 Q.   Did either of those devices support audio?

21 A.   Both of those devices had microphones as well as

22 speakers for output.

23 Q.   And when did those products come out?

24 A.   Those products came out in 1996, '97, '98.

25 Q.   Okay. How was it that you came to work at Apple

1108

1 as a consultant?

2 A.   Well, I had been in the Valley for, as I said,

3 about 11 years, 10 years at the time; and I met a lot of

4 people through --

5 Q.   Sorry to interrupt you, sir. When you say "the

6 Valley," what are you referring to?

7 A.   Silicon Valley.

8 Q.   Okay.

9 A.   So, I was in Silicon Valley since 1991. I'd met a

10 lot of people from my time at General Magic and my time

11 at Phillips, and we have lunch with -- I have lunch with,

12 you know, various people that I work with over time. And

13 it so happens that the person I was having lunch with who

14 we worked together at General Magic also was having lunch

15 the next day with Jon Rubinstein, who was the senior

16 vice-president of hardware engineering at Apple. And I

17 guess Jon asked him, "Do you know anybody who knows small

18 digital electronics and is probably available?"

19   And I had disclosed to my lunch friend that my

20 start-up wasn't doing very well at the time because the

21 Internet bust happened and that I might be available.

22 And so, that's how it got started.

23 Q.   So, how did Mr. Rubinstein get in touch with you?

24 A.   He gave me a call. I was trying to gather myself

25 because of this failure that was my start-up that was

1109

1 really, really difficult to get off the ground. And, so,

2 I was taking a little break and went skiing in Vail,

3 Colorado; and as I was getting on the chair lift, I got a

4 phone call from Jon Rubinstein totally out of the blue.

5 I didn't even know who he was. He calls me up and says,

6 "Hello. This is Jon Rubinstein from Apple."

7   I was like, "Hi."

8   He goes, "I had lunch with your friend, and I

9 think I have an interesting project and you might be able

10 to help us."

11   And I was like (demonstrating).

12   He was like, "Could you come in soon?"

13   I said, "Well, my vacation will be wrapping up

14 in a few days; and I'll come in right after that."

15   And I put it down and I turned to my uncle who

16 was sitting next to me and I said, "That was Apple."

17   And he was like, "What do they want?"

18   I said, "I have no idea."

19 Q.   So, he didn't tell you what he wanted?

20 A.   He told me nothing.

21 Q.   Okay. Did there come a time when you met with

22 Mr. Rubinstein?

23 A.   A few days later, right after the Super Bowl

24 happened, I met with him.

25 Q.   Did he tell you what he wanted at that point?

1110

1   A.   No, he did not.   He just wanted information about

2   me -- he was interviewing me -- about my background, what

3   I had done, how my -- you know, if I had time on my

4   hands, those kinds of things.

5   Q.   At what point did Apple or Mr. Rubinstein tell you

6   what it was they wanted you to do?

7   A.   I had another subsequent two or three meetings

8   with Apple management and some people who reported to Jon

9   to interview me and at some point he said, "Let's do a

10 contract.   Let's put together some kind of consulting

11 agreement."   And then we negotiated that.   Then I signed

12 that.

13   And then our first meeting after I signed the

14 agreement and the confidentiality agreement, then he told

15 me about a project that he wanted me to work on and he

16 got into more specifics.

17 Q.   And when you say "he," do you mean --

18 A.   Jon Rubinstein.

19 Q.   What did he tell you he wanted you to work on?

20 A.   Jon was specifically -- he was mentioning that

21 there was a software program on the Macintosh called

22 "*iTunes*" and that *iTunes* was rather successful and it was

23 a digital music library where you put your CDs into the

24 Macintosh.   It would take the songs off the CD and put

25 them onto your Macintosh.   However, the only way to get

1111

1 the music back out of Macintosh was either to play it on

2 the Mac or to burn another CD like a mixed tape and you

3 could take that with you.

4   And they said that that was interesting but it

5 wasn't really great and, so, they decided to start

6 hooking up MP3 players up to *iTunes*. And these MP3

7 players, they tried and they tried; and they said they

8 were pretty much inferior products. They said, "We think

9 that Apple should be able to build one of these and put

10 the Apple touch on, you know, designing and building an

11 MP3 player. We need your help to go off and do that."

12 Q.   Did any of those MP3 players support playlists

13 that work with *iTunes*?

14 A.   I don't -- I don't recall exactly. I know there

15 were a few devices I think from Creative. I don't know

16 exactly which ones that did support playlists with

17 *iTunes*.

18 Q.   Okay. Fair enough.

19   So, what did you do next after Mr. Rubinstein

20 hired you as a consultant and told you what he wanted you

21 to do?

22 A.   Well, he told me specifically what to do, which

23 was go out and the first thing was to create a document

24 that kind of listed all the technologies of the time for

25 the different types of, you know, memory, screens, audio

1112

1 codecs, all of those things. So, he asked me to do that

2 research and to put together a document so that I could

3 get the management team at Apple up to speed as to what's

4 the latest and greatest that's going on in the digital

5 music world -- handheld digital music world so that we

6 could get *iTunes* to go, essentially.

7 Q.   What do you mean "*iTunes* to go"?

8 A.   Well, it was really about taking -- you know,

9 taking the music that you already put in your *iTunes*

10 music client and then being able to put -- take all that

11 music and all the things you've done, such as playlists

12 and what have you, and put those onto the product so it's

13 very quick to -- you know, you didn't have to carry your

14 Macintosh or a CD player around with you. You could have

15 more than, you know, a CD's worth of music in your

16 pocket.

17 Q.   If you would, sir, open your binder. There's a

18 tab there, Defendant's Exhibit 305.

19 A.   Okay.

20 Q.   What is this document?

21 A.   This is the digital-audio Primer, Version 0.3.

22 This is a set of versions of the document.

23   As I explained previously, Jon first -- his

24 first assignment for me was "Tell us all about the

25 various technologies that could be built -- be a digital

1113

1 music player could be built, all the software/hardware

2 technologies, what have you."

3   And as you see by the subtitle, "How to know

4 everything you need to know about digital-audio Portables

5 in 30 minutes." So, this was a briefer for the

6 management staff at Apple.

7 Q.   Okay. Was it just to brief those people, or was

8 there some other purpose behind it as well?

9 A.   Well, I think it was them testing me to see if I

10 knew something about this space. So, this was kind of

11 a -- they were interviewing -- they were continuing the

12 interview to see if I was really up to the challenge of,

13 you know, creating an Apple-like product.

14 Q.   Can you take a look at this document and see

15 whether it reflects some of the work that you did during

16 your consultancy?

17 A.   (Perusing document.) Yes. Yeah, I created this

18 document. And -- from a series of many, many meetings

19 and lots of research that I was doing online, combined

20 with my expertise that I had creating digital music

21 products before and other handheld products before, I

22 created this document.

23 Q.   What kind of people did you meet with?

24 A.   I met with battery companies, display companies,

25 processor companies. I met with software suppliers. I

1114

1 met with teams inside of Apple that might know some

2 things. I met with Jeff Robbins a couple of times to get

3 *iTunes* up-to-speed, met with Stan, various people.

4 Q.   Now, there was some discussion earlier about

5 purchasing products. Do you remember that?

6 A.   Yes.

7 Q.   What kind of products did you purchase?

8 A.   I purchased MP3 players, both hard drive and

9 flash-based portables.

10   I purchased pocket dictionaries and PDAs. I

11 purchased handheld game machines, like a Game Boy. I

12 purchased various other battery technologies; so, like

13 double As and triple -- I purchased all these different

14 types of battery technologies as well.

15 Q.   Why did you do that?

16 A.   Well, it was to have physical models of these

17 different things so that you could -- you know, when you

18 design a portable, you have to understand there's size

19 and there's weight and there -- there's size, there's

20 weight or volume -- size being volume. There are display

21 technologies, what types of displays look better than

22 other displays, user interface technology or user input,

23 buttons and things of that nature, the way the boards and

24 connector technologies are stacked up.

25   So, what you do is you look at each of these

1115

1 products and you try to understand who the vendors are

2 that they used to be able to create these products and

3 to -- you know, to try to, you know, look at best of

4 breed and make sure that you're not going to do anything

5 dumb, you're going to pick the best stuff you possibly

6 can to design a product.

7 Q.   Now, you mentioned that you bought a variety of

8 different kinds of products. Do you remember roughly how

9 many you bought?

10 A.   Somewhere between 30 and 40 devices.

11 Q.   And how many of those were MP3 players?

12 A.   Around 8 to 10, maybe 12, somewhere in there.

13 Q.   Why would you buy things like a pocket dictionary?

14 A.   Well, a pocket dictionary is typically -- you

15 would use it for the screen technology because that --

16 you know, you needed to have real crisp text to read a

17 lot of text on a display. So, I believe I did that, as

18 well as I think there was a hinging technology in one of

19 them that was a very cool mechanical hinge that I thought

20 might be useful in the design.

21 Q.   Did you use any of the components or other

22 technologies that you saw in these various devices in the

23 iPod?

24 A.   Overall, the chips and the processors that were

25 used in the MP3 players or the pocket dictionaries, we

1116

1 used none of those. We used processors that were not

2 available on the marketplace. In most cases they weren't

3 even available as samples. They were still in an

4 engineering -- in engineering development. They hadn't

5 even been manufactured yet to be used.

6 Q.   What about the hard drive that you talked about

7 with Mr. Schutz? Was that used in any of the products

8 that you looked at?

9 A.   No. The 1.8-inch Toshiba hard drive was not in

10 use. It was very, very new. In fact, it was only one or

11 two weeks old at the time of when I signed the contract

12 with Apple to be a contractor.

13 Q.   If you would, sir, turn in Defendant's Exhibit 305

14 to page 8.

15   MR. STEPHENS: And if we could zoom in,

16 please, on the section there that says "Cirrus 7412" and

17 "7409."

18 BY MR. STEPHENS:

19 Q.   What were those, Mr. Fadell?

20 A.   Those were part numbers for two different silicon

21 processors, or "System-on-Chip" as we call them, that

22 were in design at Cirrus Logic. Both of them were not

23 available yet, but they had some promising

24 specifications.

25 Q.   And I see that for the 7412 it says "Mass

1117

1 Production Q2 2002."

2 A.   That's correct.

3 Q.   And "specification not yet complete."

4 A.   That's right.

5 Q.   What were your expectations with respect to that?

6 A.   Well, this is a part that's in early development

7 as opposed to one that's in later development. So, you

8 know, a lot of times companies will come with basically a

9 nice set of slideware of all the different things that

10 are in a chip; and you go, "Wow, that's really

11 interesting."

12   And then the next question -- because I've

13 seen enough of this in the business. You go, "That's so

14 good that I don't know if you can really build that."

15 And it actually turned out that that part, which it says

16 "perfect part" up there, was never actually delivered

17 because it was unobtainium. It was just -- they couldn't

18 make it work.

19 Q.   Why did you consider it the "perfect part"?

20 A.   Well, the biggest reason is that -- if you look at

21 the third line there, it says the Base Product 7409,

22 which was still under development, adds a hard drive

23 support. None of the chips that were available from

24 Cirrus or almost any of the other products actually

25 allowed you to bolt a hard drive up to the silicon

1118

1 processor. They were all using flash memory at the time.

2 Q.   If we look down at the 7409, that says "mass

3 production August/September 2001."

4 A.   That's correct.

5 Q.   Was that available in March of 2001?

6 A.   No. We didn't even -- as it says there in the

7 next line, we didn't even have samples of it until June

8 or July of that year.

9 Q.   What's the next line mean, where it says "needs

10 SDRAM controller and EIDE/ATA Support"?

11 A.   So, when you have a -- the 7409 was built for a

12 flash-based device, not a hard drive-based device. And

13 when you have a flash-based device, you need to add some

14 kind of support to bolt onto a hard drive; and, so, you

15 would need, as it says, ASIC, which is a special purpose

16 type of chip. So, you have to design a chip, create that

17 chip to get a hard drive to talk to this other chip.

18   The SDRAM controller, because we were running

19 a more sophisticated operating system, the more

20 sophisticated operating system needed more memory to run

21 as well as hold the database for all of the songs on a

22 thousand-song player. So, we needed also SDRAM to be

23 able to store all of this data and run this operating

24 system in it.

25   So, two very, very critical functions that are

1119

1 necessary in the iPod were not available in this chip

2 that still wasn't yet available from Cirrus Logic.

3 Q.   So, I think you said the 7409 supported flash

4 memory; is that right?

5 A.   Yes.

6 Q.   Why couldn't you just use a hard drive with the

7 same interface that the flash memory used?

8 A.   Well, flash at that time was, I believe, around

9 $80 a gigabit. And, so, if it was $80 a gigabit, you

10 needed 8 of them to make a gigabyte. And, so, that would

11 be -- and you needed -- so, the Toshiba hard drive had

12 5 gigabytes of storage. You would need 40 of those

13 80-dollar chips to replicate the storage that the hard

14 drive would have. So, that would be about -- over $3,000

15 to be able to create the same kind of product out of

16 flash.

17 Q.   And what about the interface? In other words,

18 could you just take a chip that was designed to work with

19 flash and just, as you said, bolt on a hard drive

20 instead?

21 A.   They're totally different interfaces, totally

22 different power constraints, totally different ways of

23 interfacing between the two products at that time.

24 Q.   Okay.

25   MR. STEPHENS: If we could now look down at

1120

1 the "PortalPlayer PP5002," just below the "Cirrus"

2 section. Blow that up, please.

3 BY MR. STEPHENS:

4 Q.   What was the PortalPlayer PP5002?

5 A.   The PortalPlayer was a competitive specification

6 of a chip like the Cirrus one. It was built for both

7 flash- and hard drive-based products, not all of them

8 being portable actually.

9   And, so, this was a CPU combination product

10 that we were considering.

11 Q.   So, it was designed to support a hard drive?

12 A.   Yes. As it says there in, I guess, the third

13 line, it has SDRAM and ATA control, SDRAM being the

14 memory and ATA/EID being the hard drive interface.

15 Q.   Now, I see a line there that says "power,"

16 question mark. What was that?

17 A.   The part itself hadn't been designed for portable

18 operation; and, so, I was very concerned that we couldn't

19 make a long battery life portable using this processor.

20 And, so, I asked the company to make some modifications

21 to that product so that it could be used in a low-power

22 operation.

23 Q.   Now, was the PortalPlayer PP5002 available in

24 March of 2001?

25 A.   No. As it says there in the first line, it says

1121

1 "samples in April and mass production in July." So, they

2 were an unproven company, and I was -- it was very hard

3 to trust them that they were going to actually, you know,

4 deliver on what they said they were.

5 Q.   Were those dates -- April and July -- were those

6 for the stock part or the part that you asked them to

7 investigate building for you?

8 A.   The stock part was in April, and then they made

9 the modifications -- I believe the modifications came out

10 in late June or early July. And then they went to mass

11 production a few months later after they qualified the

12 part.

13 Q.   And those modifications were at your request?

14 A.   Yes, they were.

15 Q.   Okay. If we could go now to page 9 of this

16 exhibit, Defendant's Exhibit 305. Again, there is a

17 section about Cirrus there.

18   MR. STEPHENS: And I'd like to look at the

19 7409 and 7412 pieces, if we could. If you could blow

20 that up, please.

21 BY MR. STEPHENS:

22 Q.   The 7409 says "targeted at midrange portables

23 without spinning media." Could you explain that?

24 A.   Oh, okay. So, the 7409, that was the chip

25 again -- was targeted at midrange MP3 portables that had

1122

1 flash, no spinning media. Spinning media means hard

2 drives because hard drives have platters inside them that

3 spin round and round. Flash is solid-state. There are

4 no mechanical parts in them.

5 Q.   Does that have consequences for the design?

6 A.   Well, hard drives have different characteristics

7 than flash do when you're making a portable product.

8 Q.   What would you say are the most important

9 differences in those characteristics?

10 A.   Well, one big difference is the price. Another

11 one is the storage amount, how much you can store.

12   But when it comes to portables, the biggest

13 thing is about -- how could I say -- ruggedability, so

14 that they were really rugged. Nobody had ever put a hard

15 drive in your pocket. Right? Typically most people are

16 afraid of -- you know, their laptops and they drop their

17 laptop and the laptop hard drive is spinning and you

18 could have data corruption or something like that. So,

19 we were taking a risk; and I was really sweating bullets

20 about taking a hard drive and actually putting it in your

21 pocket, you know.

22 Q.   Any other differences between the two? Power?

23 Heat? Anything like that?

24 A.   Well, power is much higher for a hard drive

25 because you have a physical motor that's spinning. It's

1123

1 also larger, right? It's a much physically larger size

2 than a flash -- an individual flash chip. So, all of

3 those things are very, very different.

4   MR. STEPHENS: If we could go now to

5 Defendant's Exhibit 305, page 0007.

6   And if we could blow up the chart, please, and

7 the legend.

8 BY MR. STEPHENS:

9 Q.   What is this, Mr. Fadell?

10 A.   This is a graphic that I made to compare the

11 various chip suppliers' technology in both the hardware,

12 which is along the X axis, going left and right, and then

13 the software technology that those same suppliers offered

14 going from top to bottom.

15   And, so, what this was is really trying to

16 compare the different capabilities of each of these

17 suppliers. In some cases when it's down in the lower

18 left side, they had very, very simple products, maybe no

19 software and some hardware or *vice versa*. And then up

20 onto the higher right was, you know, a very complex

21 hardware product with lots of software that could be used

22 to create the product that we were looking for.

23 Q.   Did you actually choose any of the products we see

24 in this slide for the original iPod?

25 A.   Yes. The one to the -- the highest to the right,

1124

1 the PortalPlayer 5002 variant is what we selected for

2 this product.

3 Q.   And why did you choose that one?

4 A.   It was the only product that I believed in

5 technically that it could work. I had a lot of doubts

6 about the company itself because it was only 40 guys and

7 a start-up and they had never shipped anything before.

8 But it was the only thing that I felt was feasible to

9 actually get the product done in the right feature set,

10 in the right time frame. So, it was a major risk. I

11 just said -- and I interviewed the team and they all

12 seemed very smart and they knew what they were doing.

13 So, I had to basically trust that they were going to be

14 able to produce this part.

15 Q.   Did you ever use any of the Cirrus Logic parts

16 we've looked at?

17 A.   At Cirrus Logic I -- we actually traveled to the

18 company and met with the engineers. And as I dug more

19 and more into the company, I found that that company was

20 not incredibly stating what they actually had and what

21 they didn't have.

22   And, so, at some point in, I believe, late

23 April when PortalPlayer started to show that they were

24 real, I cut off Cirrus Logic because they couldn't

25 produce anything. And, so, they lost our trust; whereas,

1125

 1 PortalPlayer gained our trust.

 2   MR. STEPHENS: If we could turn to Defendant's

 3 Exhibit 305 at page 14, please.

 4 BY MR. STEPHENS:

 5 Q.   There is a section there at the top. It says

 6 "digital-audio Storage Options," and then it says

 7 "Non-Volatile Memory" and "On-board embedded flash."

 8   MR. STEPHENS: If you could just blow up that

 9 section.

10 BY MR. STEPHENS:

11 Q.   Could you explain that to us, please?

12 A.   This is a comparison of the various densities of

13 flash. Flash comes in two different types, one NOR and

14 another one NAND. NAND is a much higher density storage

15 to allow you to store songs on it; so, it's really a

16 comparison between the two.

17 Q.   When you say "higher density," what do you mean?

18 A.   Well, "higher density" means you can store more

19 data. You know, as you can see, the numbers are bigger

20 in the NAND section than over the NOR. So, you could

21 store a lot more data in NAND technology.

22 Q.   And I see there a line at the bottom under the

23 NAND chart, 1 gigabit, "6/01 avail," $85. What does that

24 mean?

25 A.   That means if I wanted 1 gigabyte of storage,

1126

1 which is 128 megabytes, it would cost $85 for that part.

2 Q.   And I think you testified a few minutes ago about

3 how many of those chips you would need to make

4 5 gigabits?

5 A.   To make 5 gigabytes. To make 5 gigabytes, which

6 is the same size as the rotating hard drive, you would

7 need 40 chips.

8 Q.   What's the difference between a bit and a byte?

9 A.   You multiply by eight. For every byte, it has

10 eight bits.

11 Q.   So, in order to get one gigabyte, you would need

12 eight 1-gigabit chips?

13 A.   That's correct. So, eight times one gigabit

14 equals one gigabyte; and five times one gigabyte equals

15 five gigabytes. That's how you get 40 chips.

16 Q.   And how much would that cost?

17 A.   Over $40,000 at that time.

18 Q.   Was that even available in March of 2001.

19 A.   As it says here, it says it wasn't available until

20 June 6, 2001.

21   MR. STEPHENS: If we could turn now to page 17

22 of Defendant's Exhibit 305. And there is a section

23 there, "1.8-inch hard drives." If we could blow up that

24 section.

25 A.   Which page?

1127

1 BY MR. STEPHENS:

2 Q.   Page 17, sir.

3 A.   Page 17, okay.

4 Q.   What was that about?

5 A.   This is about a 1.8-inch hard drive. It was

6 smaller than the standard laptop hard drives at the time

7 which were 2-and-a-half-inch. This was a smaller form

8 factor one, about the size of a PCMCIA card, kind of like

9 a thick business card.

10 Q.   And the price there is $120?

11 A.   Correct, $120 for 5 gigabytes.

12 Q.   Versus the over $3,000 for the flash memory?

13 A.   That's correct.

14   MR. STEPHENS: If we could turn now to page 5

15 of Defendant's Exhibit 305. There is a section at the

16 top there that says "General Purpose CPU/DSPs." Could we

17 blow up that section, please?

18 BY MR. STEPHENS:

19 Q.   And it says "out of scope of this document."

20 Could you explain what this section means?

21 A.   Well, general purpose CPUs or DSPs are typically

22 found in computers, or computers as we know them, laptops

23 and desktops; and they allow for you to run general

24 purpose software like Microsoft *Word* or Microsoft *Outlook*

25 or, you know, Apple products, too, on a CPU.

1128

1   And, so, we weren't trying to run any kind of

2 open software on this. This was an embedded product. We

3 would write all the software that would run -- or we

4 would integrate or write all of the software that would

5 run on this processor, and it wasn't meant to have

6 applications and all kinds of other third parties

7 developing for it.

8   MR. STEPHENS: If we could now turn to

9 Defendant's Exhibit 303.

10 BY MR. STEPHENS:

11 Q.   Could you tell us what this is, please?

12   MR. STEPHENS: I'm sorry. Let's go back

13 briefly to Defendant's Exhibit 305. I just wanted to

14 note the date on the front page, in the lower right.

15   Yeah, there we go.

16 BY MR. STEPHENS:

17 Q.   March 23rd, 2001, is that about the time you

18 created Defendant's Exhibit 305?

19 A.   This is -- yeah. I was working straight through

20 on my birthday -- my birthday was the day before -- to be

21 able to deliver this document.

22 Q.   Okay.

23   MR. STEPHENS: Let's go back then to

24 Defendant's Exhibit 303.

25   *

1129

1 BY MR. STEPHENS:

2 Q.   Could you tell us what that document is?

3 A.   This was the -- well, this is a version of the

4 specification of what was to become the first generation

5 iPod.

6 Q.   And this is dated April 3rd, 2001; is that right?

7 A.   That's correct.

8 Q.   Is that about the time you created it?

9 A.   Well, this is the time that I believe this version

10 was created. But as it says, it says "Version 0.04." I

11 created Version 0.01 earlier than that.

12 Q.   And was that true for the Defendant's Exhibit 305?

13 You had other versions to that?

14 A.   Yes. As I created new kind of major versions -- I

15 call them "major" in my mind -- I would renumber them to

16 show that there was progress and so that we could track

17 the document.

18   MR. STEPHENS: If we turn the page to page 2

19 of Defendant's Exhibit 303.

20 BY MR. STEPHENS:

21 Q.   It says "Dulcimer features" and then

22 "description." Could you tell us what that's about?

23 A.   This -- in the column on the left-hand side was

24 basically a breakdown of all the -- kind of the top-level

25 functions or features that the product would have, just,

1130

1 you know, a categorization of them.

2 Q.   I see there partway down it says "storage" and

3 then "1.8-inch 5-millimeter hard drive" to the right of

4 that. Do you see that?

5 A.   Yes, I see that.

6 Q.   Is that the same drive that we were talking about

7 with the other document a minute ago?

8 A.   Yes. There was only one supplier at the time.

9 Toshiba 1.8-inch hard drive, that's all you could buy.

10 Q.   Were there risks with using that product in the

11 iPod?

12 A.   Well, there are numerous risks. The first one, as

13 I mentioned, is putting a hard drive in your pocket when

14 you're jogging or running or doing anything or, you know,

15 just setting it down on the table. It's a mechanical

16 operation, operating disk drive; and any just little

17 shock to it can cause it to damage. You know, I've

18 damaged a hard drive when you just drop it, you know,

19 just 2 inches onto the table. And, so, that was a big,

20 big, big issue for risk.

21   The other one was Toshiba was the only

22 supplier; and they hadn't made these in volume yet

23 because it was very, very new. And, so, to say that I'm

24 going to need hundreds of thousands of them and we need

25 to work and we need to make sure that this 120-dollar

1131

1 component was not going to fail one or two years -- our

2 warranty was much longer, right? We wanted to please our

3 customer. Those things were all -- you know, from one

4 supplier. Those are probably the two most riskiest

5 things about choosing a hard drive for a portable

6 product.

7 Q.   Had anybody else designed a hard drive-based music

8 player that would fit in your pocket?

9 A.   Well, personally, other people, you know, made

10 hard drive-based MP3 players; but they -- I don't think

11 they fit in my pocket. They were about this size

12 (indicating).

13 Q.   And how --

14 A.   And, so, they weren't -- a deck of cards, right?

15 Q.   For the record, how big were you saying the other

16 players were?

17 A.   I'd say they were just bigger than a CD. So, they

18 were about the size of a portable CD player, a little

19 thicker. So, you know, that doesn't fit in any of the

20 pockets I have today.

21 Q.   And how big was the player you were working on

22 going to be?

23 A.   It was the size of a deck of cards.

24 Q.   How big were the hard drives that were used in

25 those other players?

1132

1 A.   Those were, in some cases, the same or bigger

2 actually. They had 10-gigabyte or 20-gigabyte hard

3 drives, I believe.

4 Q.   You mean capacity. I'm sorry.

5 A.   Capacity.

6 Q.   I meant physical size.

7 A.   Oh, physical size. They were 2-and-a-half-inch

8 platters. So, a 2-and-a-half-inch platter -- this is a

9 1.8-inch platter. That's the diameter of the platter.

10 2 and a half inches is about this size (indicating). I'm

11 sorry. I can't -- the size of an orange in diameter.

12 And then it would be stacked up. So -- I'm trying to

13 figure out an analogy. Like a household sponge, a

14 typical household sponge, that's about the size of what a

15 2-and-a-half-inch drive would be as opposed to the

16 1.8 inches was a thick stack of business cards.

17 Q.   Had anybody else used the 1.8-inch hard drive in

18 an audio player?

19 A.   No, they had not.

20 Q.   If you look down the page a little bit, there is a

21 section that says "input buttons."

22 A.   Yes.

23 Q.   And it says, "play, stop, track forward, track

24 reverse." Do you see that?

25 A.   Yes, I see that.

1133

1 Q.   What led you to list those?

2 A.   Those are standard controls that are found on CD

3 players and tape decks and various other things. Those

4 are standard "transport controls," as we call them, so

5 you can play your music back and forth.

6 Q.   Had those been around for a while?

7 A.   Since I started using tape players, I think in the

8 Eighties, yes.

9 Q.   If you look down a little further, there is a

10 section on "connection."

11 A.   Connection, yes.

12 Q.   And it says "standard FireWire connection to Mac."

13 Do you see that?

14 A.   That's correct.

15 Q.   What is FireWire?

16 A.   In this time frame FireWire was the highest speed

17 way to transfer data from one device to another via a

18 wire. So, it was a standard that Apple created,

19 invented; and then other people adopted it in the

20 industry to connect hard drives, digital cameras to a

21 Macintosh or another computer to move a lot of data very

22 quickly to another place.

23 Q.   And what was the speed of FireWire at the time?

24 A.   The speed of FireWire, I believe -- there were

25 different flavors and different versions. Around 100

1134

1 megabits to 250 megabits per second, somewhere in that

2 general range, megabits per second.

3 Q.   As opposed to megabytes?

4 A.   As opposed to megabytes, correct.

5 Q.   Okay. Are you familiar with something called

6 "IrDA"?

7 A.   Very much so, yes.

8 Q.   What is it?

9 A.   IrDA is a standard by which you can move bytes of

10 data between two devices via light, light emissions, like

11 your standard remote control at home when you turn on the

12 TV, that uses light pulses. We can't see them, but it is

13 used to change channels and things of that nature.

14 Q.   Do you have any experience with it?

15 A.   I was part of the IrDA body back when I was at

16 General Magic in ninety either two or 1993. I went to

17 various sessions of IrDA and helped to author parts of

18 the standard.

19 Q.   How fast was IrDA at the time?

20 A.   IrDA -- the fastest speed you could get -- there

21 were all kinds of other slower speeds, but the fastest

22 that I remember at the time was 115 kilobytes per

23 second -- excuse me -- kilobits per second.

24 Q.   And I'm afraid I was unclear as to time. When are

25 you talking about?

1135

1 A.   Around 1992, 1993, was when the standard was

2 getting created. Products subsequently came out in 1994,

3 '5, '6, something like that.

4 Q.   Did you ever consider using IrDA on the iPod?

5 A.   No, we did not.

6 Q.   Why not?

7 A.   It was much, much too slow.

8 Q.   Any other reasons?

9 A.   It wasn't a very robust connection; so, it wasn't

10 reliable. And it also didn't charge the device.

11 Q.   When you say it wasn't robust, what do you mean?

12 A.   Well, IR requires line of sight. When you have a

13 cable, you can connect the cables in two different ways

14 and move the devices any way you want. When you have IR,

15 it's literally a light pulse, you know, like somebody

16 flashing a flashlight at you and you have to be directly

17 in front of it to see it. And, so, you'd have to have

18 two devices directly, usually within 6 inches of each

19 other, perfectly faced; and then the light pulses would

20 go back and forth between them transferring data.

21 Q.   What do you mean by it wouldn't charge?

22 A.   Well, it doesn't charge the battery. There was

23 not enough power transmitted in light to be able to then

24 take that light pulse, those photons, and turn them into

25 electrons to then put them into the battery to charge the

1136

1 battery.

2 Q.   Could FireWire charge the iPod?

3 A.   FireWire, because there was a cable, a physical

4 wire, the electrons could flow over that cable and charge

5 the battery, yes.

6 Q.   Did you need to have a separate charging cable for

7 the iPod?

8 A.   No, you did not.

9 Q.   Did you consider USB for the original iPod?

10 A.   We did. At that time in 2001, there were really

11 only two communications -- wired communications standards

12 out there, one being FireWire and the other one being USB

13 1.0.

14   FireWire, as I said previously, was about 100

15 to 200 megabits per second. USB at the time was only

16 about 1 megabit to 5 megabits per second for a transfer.

17 Q.   Why didn't you use USB in the original iPod?

18 A.   Well, the current players that were out there were

19 using USB 1.0. However, when you added USB 1.0 to like a

20 hard drive-based player, it would take 7, 8, 10 hours,

21 24 hours to move all the songs from your computer onto a

22 hard drive-based player.

23   I felt that was totally inconvenient. Why

24 would you take hours to transfer your music when there

25 was another standard called "FireWire" and we could do it

1137

1 in 3, 4, 10 minutes? You could get all of the same

2 amount of data transferred and charge the device.

3 Q.   Now, eventually iPods started using USB; is that

4 right?

5 A.   That's correct. They did. The USB 2.0 standard,

6 USB 2.0 standard, was created around the 2001-2002 time

7 frame. However, it wasn't generally adopted by the

8 industry until 2003 or 2004 when *Windows* actually

9 integrated the drivers for USB 2.0 and Intel shipped the

10 chips for USB 2.0.

11 Q.   And what was the difference between USB 1.0 and

12 USB 2.0?

13 A.   From a consumer's perspective, they were about the

14 same. They had about the same speed. Technically

15 they're very different but from a consumer's point of

16 view, they were very similar and similar enough -- and

17 PCs were adopting USB 2.0, not FireWire -- that we made

18 the decision to switch to USB 2.0 in, I think, the 2004

19 time frame and remove FireWire at that point.

20 Q.   Did the speed play a role in that decision?

21 A.   When USB 2.0 became much faster, basically

22 competitive with FireWire, then that was the impetus to

23 move to USB and remove FireWire, so that the users didn't

24 see any deficiency in capabilities from one generation to

25 the next.

1138

1 Q.   Could you use -- excuse me.

2   Could you buy USB 2.0 chips in 2001?

3 A.   No, you could not, not consumer-based parts that

4 would be cheap enough and low-power enough to be able to

5 put into products.

6 Q.   Now, if you could, sir, turn to Plaintiff's

7 Exhibit 745 near the back of your binder. And I think

8 you testified about this when you were talking to

9 Mr. Schutz. Could you just remind the jury what this is?

10 A.   This is a version of the presentation that Stan Ng

11 and I created to give to the -- to present to the

12 executive management of Apple -- or part of the executive

13 management of Apple.

14 Q.   And did you actually present this presentation to

15 that management group?

16 A.   A version of this, yes.

17 Q.   Okay. Did you have any other demonstratives or

18 physical exhibits or anything like that that you used at

19 that meeting?

20 A.   Well, we brought these in printed slides; and then

21 the night before, I created some models with foam board

22 and created stack-ups that were basically what I believed

23 was about the size and the shape of the device. And then

24 I took some old fishing weights from my grandfather's

25 fishing tackle box, put them inside and made the device

1139

1 weigh about the weight I thought it was going to be. And

2 then I put graphic panels that I printed out of where the

3 screen would be and the buttons and put those all

4 together and glued it up and put it in my hand. And that

5 was a model that I had represented that we brought into

6 the meeting.

7   Then I also created, out of more paperboard,

8 the boards that would go inside with the chips. So, I

9 actually picked chips off of -- you know, representative

10 in terms of the physical size from different products,

11 pulled those off the boards, put them on the board to

12 show how the chips would fit on, you know, this PCB, or

13 printed circuit board, with connectors. I took the

14 various hard drives and batteries, screens that I had

15 kind of, you know, taken from these other products,

16 harvested, and created Lego blocks so that we had a

17 physical model and then we had a Lego box of all of the

18 components and I could stack them there in front of the

19 executive team and show how it was put together, how it

20 would be wired, how the connectors would work and

21 everything.

22 Q.   Do you still have that model?

23 A.   No, I do not.

24 Q.   Do you know what happened to it?

25 A.   No, I don't.

1140

1 Q.   If you would turn, sir, to page 2 of Plaintiff's

2 Exhibit 745. There is a slide there titled "Market

3 Landscape." Do you see that?

4 A.   Yes.

5 Q.   And Mr. Schutz, I think, asked you about the

6 projections. I want to ask you about the other two

7 bullet points there, "portable jukeboxes" and "portable

8 players." Can you explain those, please?

9 A.   The two different types on the market were really

10 delineated by both the size and the number of songs that

11 were being produced -- being stored on the product.

12 Portable jukeboxes, as it says here, were a thousand

13 songs or greater and the portable players, which were

14 flash-based, could only store, as it said, 16 to 64

15 songs, which could be two, three, four CDs worth of

16 music. So, in one case you had a thousand songs; and in

17 the other case you may have had 60 to 80 songs, in total.

18 So, it was really very, very different. The jukeboxes

19 were large. They used 2-and-a-half-inch hard drives and

20 the portable players used flash, but those were much more

21 pocketable and could be small like a deck of cards or

22 smaller.

23 Q.   If you could turn to page 4, please. There is a

24 slide there called "Storage Options."

25 A.   Yes.

1141

1 Q.   The first bullet point says "Storage is a major

2 driver." Could you explain that, please?

3 A.   Well, when I wrote those words, it means storage

4 is a major driver of -- and if you look at the next one,

5 how many songs you could store, how much the device would

6 cost, how long the battery life is, the size of the

7 device, the weight of the device, the robustness of the

8 device.

9   When choosing storage, it's very critical to

10 understand the application at hand and to make the

11 storage -- to pick the type of storage that exactly works

12 for that application, or close enough.

13 Q.   The next section says "Analyze" and then it

14 mentioned "Embedded DRAM" and "Embedded Hard Drive."

15 Could you explain those, please?

16 A.   So, it really meant that I was looking at the

17 various options of storage. Storage comes in all kinds

18 of flavors, rotating media, flash, SDRAM, ROM. There are

19 probably 10, 20, maybe more than that, different types of

20 storage.

21   So, I chose to specifically look at DRAM and

22 hard drives for this product.

23 Q.   And the next section says "ruled out, removable

24 and embedded flash." Do you see that?

25 A.   That's correct.

1142

1 Q.   Would you explain that, please?

2 A.   Well, as we looked at in a previous exhibit, I

3 ruled out flash because what we were trying to do was

4 take all your music -- or at least a thousand songs in

5 your pocket to go on the road with you. And, so, flash

6 was much too expensive to be considered to make a

7 consumer-based product to store, you know, a thousand

8 songs.

9 Q.   So, you ruled it out; is that right?

10 A.   Yeah. It was ruled out. It was just too

11 expensive.

12   And the other ones on there were also ruled

13 out for various other reasons as well.

14 Q.   If you'd turn the page to page 6 of Plaintiff's

15 Exhibit 745, it says "HD vs. SDRAM Device." Could you

16 explain this to us, please?

17 A.   So, this was -- as I said, I was going to analyze

18 the two storage options of a hard drive-based version of

19 the iPod and an SDRAM version which was a dynamic RAM

20 version of the iPod. Dynamic RAM is very similar to the

21 memory that you have in the computer when you buy a

22 computer and it says you have 2 gigabytes of RAM or

23 something like that.

24 Q.   The first line is capacity, and it mentions

25 5 gigabytes and 320 megabytes.

1143

1 A.   Right.

2 Q.   And there is a number there, $120. Could you

3 explain what that's about?

4 A.   So, if you have a budget of $120 for storage, how

5 much storage can you actually purchase in these different

6 storage types? So, in the hard drive, as we've seen, we

7 could purchase 5 gigabytes. For $120 of SDRAM, I could

8 only purchase 320 megabytes of that technology at that

9 time.

10 Q.   Turn the page to page 7, "Key Product Features."

11 Could you explain this slide to us, please?

12 A.   This is the top-line features that we would

13 consider, you know, marketing to the customer, why they

14 should purchase this product. And it was basically high

15 capacity or a thousand songs in your pocket. That's the

16 first line.

17   And the second line means you have lots of

18 songs. Can you play them back for a long time? There's

19 no use in having lots of songs if it only lasts an hour.

20   You could quickly get those songs on it.

21 That's the next line, "fast and convenient connectivity

22 via FireWire."

23   And then it's a simple UI. Once you have a

24 thousand songs, can you easily find the song you're

25 looking for and play it back.

1144

1 Q.   Mr. Fadell, we talked about bits and bytes; but

2 I'm afraid I never asked you what the difference between

3 a gigabyte and a megabyte is.

4 A.   Okay. A gigabyte is 1,000 megabytes.

5 Q.   So, a gigabyte is a thousand times the size of a

6 megabyte?

7 A.   That's correct.

8 Q.   And how about a gigabit versus a megabit?

9 A.   It's eight times. So, one megabyte equals eight

10 megabits.

11 Q.   Okay. And the same would be true for gigabyte

12 versus gigabit?

13 A.   That's correct.

14 Q.   Okay.

15   If you'll turn the page again to page 8, there

16 is a slide, "Weight Comparisons." Could you explain this

17 to us, please?

18 A.   So, another big issue when you make a portable

19 device is you don't want it to weigh a lot. You want it

20 to be as light as it possibly could be so that it's not

21 cumbersome even when it's in your pocket. And hard

22 drive-based -- or the current set of hard drive-based

23 jukeboxes, or the ones that stored a thousand songs, used

24 a very large drive that was very heavy. And, so, like I

25 said, it was also physically volumetrically large, those

1145

1 jukeboxes; but they were also heavy because they needed a

2 lot of batteries as well as the big hard drive.

3   So, what we were trying to do is make sure

4 that we were a lighter-weight device than the jukeboxes

5 that we were competing with.

6 Q.   And which item up there refers to the project you

7 were working on?

8 A.   So, the one that's -- number of songs is on the

9 X axis from left to right. If you go up, it says

10 "Dulcimer HDD" which means hard drive. That was the one

11 that was being created. That's the one that we selected

12 to be created that became the iPod.

13 Q.   And at what point did you decide you were going to

14 proceed with the hard drive version as opposed to the

15 DRAM version?

16 A.   Well, the DRAM version had many other deficiencies

17 besides just number of songs. And, so, it was easily

18 ruled out during the process. So, it was clear there was

19 only really one path to select.

20 Q.   And why was that?

21 A.   Well, we ruled out all the other storage options.

22 We ruled out flash because it was too expensive. And

23 SDRAM, while it did hold a lot of songs, it had one real,

24 real problem, is if the battery ever died, all your music

25 would be gone; and you would have to recharge the battery

1146

1 and reload your music back into the SDRAM each time. So,

2 that's not quite a great experience when you go on a

3 vacation or something and, poof, all your music is gone

4 and then you're like, "What happened?" That doesn't

5 happen with physical CDs or what have you. So, that was

6 a damming feature of SDRAM. It's cheap but volatile,

7 whereas hard drives must be larger but they have more

8 permanence in terms of the data.

9 Q.   I want to go back to the chart here and make sure

10 that the jury can understand what it represents. What is

11 the numbers going up and down? What are those

12 representing?

13 A.   So, the numbers going up and down on the Y axis is

14 the number of grams, how much it weighs. So, the higher

15 you go up, it means it weighs more. And on the X axis is

16 the number of songs, as it says, how many songs could you

17 store on that device.

18 Q.   So, jukeboxes generally were heavier but held more

19 songs?

20 A.   Yes, that's correct.

21 Q.   And solid-state portables were lighter but held

22 fewer songs?

23 A.   They held about one or two CDs' worth of music.

24 Q.   And the Dulcimer HDD would be lighter but still

25 hold more songs?

1147

1 A.   Yeah.   It would be a little more -- how can you

2 say -- portly than the solid-state portables but not very

3 much.

4   MR. STEPHENS: If we could turn to page 13 now

5 of Plaintiff's Exhibit 745.

6 BY MR. STEPHENS:

7 Q.   There is a chart here called "Storage Overview."

8 Could you explain that to us, please?

9 A.   So, again, this is a comparison -- graphic

10 comparison of the different types of memory technologies

11 that we were looking at that seemed sort of suitable.

12   Again, on the bottom axis is the number of

13 songs from, you know, left to right. On the right side

14 is more songs, a thousand songs. And then the X axis was

15 the amount you would spend for that amount of memory.

16   So, if you look, you know, hard drive 1.8-inch

17 is what we've been talking about, $120. That stored a

18 thousand songs for $120.

19   And if you look at those curves, kind of those

20 lines that go up, you can see they kind of go up very,

21 very quickly as long as they get around 100 songs and

22 they just keep going and going and going until you get to

23 a thousand songs, which is around $3,000. And obviously

24 I couldn't make a chart that big.

25 Q.   When you said "curves" or "lines," were you

1148

1 referring to the things on the left side of the --

2 A.   Yeah, the ones that are referring to removable

3 flashcard, embedded flash, and SDRAM.

4 Q.   And do I understand correctly then that for a

5 given number of songs, stored removable flashcards were

6 more expensive than embedded flash?

7 A.   That's correct.

8 Q.   And embedded SDRAM was less expensive than

9 embedded flash?

10 A.   That's correct.

11 Q.   And there's no curve there shown for hard drives;

12 is that right?

13 A.   Well, hard drives don't come -- you can -- because

14 of the densities of SDRAM, you can make them small -- you

15 can piece them together like jigsaw puzzles and make kind

16 of any kind of capacity you want. Whereas, hard drives

17 come in very kind of set step functions, 1 gigabytes,

18 2 gigabytes, 5 gigabytes, 10 gigabytes, 15 gigabytes; so,

19 there is no continuous line that can be drawn like you

20 can with flash or DRAM technologies.

21 Q.   So, what are the points there with the various

22 HDDs next to them?

23 A.   So, the one that you highlighted, that's a

24 5-gigabyte one. And then if you go over a little bit

25 more, then there is a 10-gigabyte one; and then there is

1149

 1 a 15-gigabyte one which was the 2-and-a-half-inch drive

 2 that was in the bigger ones.

 3 Q.   So, for the number of songs stored, the hard

 4 drives were generally cheaper than the things we see with

 5 the curves?

 6 A.   That's correct, yeah. Everything to the right

 7 stored more and were cheaper than -- as soon as you get

 8 past a hundred songs, hard drive technology was cheaper

 9 than any memory technology.

10 Q.   Okay.

11   MR. STEPHENS: If we could go to Defendant's

12 Exhibit 261, please.

13 BY MR. STEPHENS:

14 Q.   Could you tell us what this is, Mr. Fadell?

15 A.   This is a document that Stan and I authored again

16 to introduce the senior leaders of the engineering teams

17 at Apple to this top-secret project.

18 Q.   Were you still a consultant at this point?

19 A.   I was a consultant before I entered the meeting,

20 and then I became an employee about 5 to 10 minutes into

21 the meeting.

22 Q.   Could you explain that, please?

23 A.   This is a very odd story. Basically I wasn't

24 convinced that I was going to join Apple and -- because I

25 had a start-up at the time; and I didn't want to leave

1150

1 all of those people that, you know, had trusted me to be

2 their leader and to run this company. And, so, I wasn't

3 quite sure if I wanted to -- and I wasn't sure that Apple

4 was actually going to create this product.

5   Being working for Phillips and seeing all

6 kinds of things that happened to General Magic and other

7 large companies, it's clear that many, many products

8 don't get shipped that people dream up. And, so, I

9 wasn't convinced that I wanted to leave my start-up and

10 that this product was really going to be produced. And,

11 so, I asked to speak with various executives at Apple to

12 convince them, have them convince me, that they were

13 actually going to really ship this product, that I was

14 going to shut down a company and create something new and

15 they were actually going to -- you spend the millions of

16 dollars necessary to create the product and to market the

17 product. And, so, I met with various executives; and I

18 was -- and, so, they were convincing me. They were

19 trying to convince me. And I was still slightly

20 unconvinced at the time that I wanted to take the job.

21 And I knew that this meeting was coming; but because I

22 had basically face-time with the executives at Apple, you

23 know, I'm going to be late to the meeting.

24   And, so, I talked to all of these people; and

25 I get into this meeting that I've never seen -- you know,

1151

 1 I was about a half an hour late. And I walk into the

 2 room, and it's a room full of 25 people -- or 20 to 25

 3 people. I had never seen most of them except Stan and

 4 Jon before in the time -- six, eight weeks -- I was at

 5 Apple.

 6 Q.   You said "Stan" and "Jon." Who were you referring

 7 to?

 8 A.   Stan Ng and Jon Rubinstein.

 9 Q.   Okay.

10 A.   So, I walk into this room 30 minutes late. These

11 25 people or so look at me with glaring eyes, just red

12 eyes going, "Why are you late? You're wasting my time.

13 What's going on here?" And I'm like -- I'm just shocked,

14 and I just got off -- you know, I just got out of those

15 meetings.

16   And then Jon turns to me at the beginning of

17 the meeting and says, "So, are you an employee? Are you

18 going to take the offer?"

19   And I said -- and I just looked around the

20 room; and I said, "Jon, can we take this outside? I'd

21 like to talk to you about this. I have some specific

22 things in the contract that I'd like you to work on."

23   And he said, "No. We're not having this

24 meeting and we're canceling this project unless you take

25 this job now."

1152

1   And I went -- and I turned to this room of

2 people, most of them I'd never seen before, and I said,

3 "Is this how everybody is hired at Apple?" And, you

4 know, they were all -- they were as shocked as I was

5 because they had never seen it before.

6   And I just was like -- I was really flustered

7 and I turned and I looked at Jon and I was like -- and

8 he's going, "You're going to take this, right?"

9   And I look him straight in the eye and I

10 didn't like the package but I just put my hand out and I

11 said, "Okay. I'm in."

12   And I shook his hand in front of all these

13 people and took the job and then I was literally in a

14 state of shock for the next 20 minutes to 30 minutes of

15 what just happened to me and I sat down and I could not

16 compose myself and Stan basically had to run the first

17 30 minutes of the meeting before -- until I could

18 literally, you know, start putting one sentence next to

19 the other. And, so, that's how I became an Apple

20 employee.

21 Q.   Well, even though Mr. Ng did the presentation at

22 the meeting, I guess I'm going to ask you a few more

23 questions about it.

24 A.   Okay.

25   MR. STEPHENS: If we could turn to page 5 of

1153

1 Defendant's Exhibit 261 --

2 BY MR. STEPHENS:

3 Q.   Actually before we do that, you said one thing I

4 wanted to clarify a little bit. You mentioned shutting

5 down a company in connection with accepting the offer

6 that you just described. What were you referring to

7 then?

8 A.   That's correct. I had started a company called

9 "Fuse," "Fuse-Systems," and that start-up company had

10 started about a year and a half previous and what we were

11 trying to do was become the Dell of consumer electronics.

12 Q.   And, so, by accepting that offer at Apple, what

13 connection did that have to do with Fuse?

14 A.   Well, I had to shut down Fuse-Systems and

15 basically I hired many of the people that were in the

16 start-up to Apple and they were some of my initial team,

17 to help me get started.

18 Q.   Okay. Turning back then to page 5 of Defendant's

19 Exhibit 261, "Form Factor Comparison," can you explain

20 this to us, please?

21 A.   Excuse me?

22 Q.   261, page 5.

23 A.   Form factor. So, this is really kind of just a

24 top-level list of the pros and cons between the different

25 categories of MP3 players at the time. There were basic

1154

1 portables, portable CD MP3 players where CDs actually had

2 MP3 files on them, and then portable jukeboxes which were

3 the hard drive-based MP3 players.

4 Q.   Okay.

5   MR. STEPHENS: And then if we could then move

6 to page 9, please.

7 BY MR. STEPHENS:

8 Q.   "Dulcimer Product Features." I don't see a sound

9 card on here. Was there a sound card in the original

10 iPod?

11 A.   No, there was not.

12 Q.   Why not?

13 A.   Sound cards are built for computers, not for

14 embedded music products. And, so, we did the sound

15 technology via software inside the processor, in the

16 PortalPlayer 5002 processor.

17 Q.   Could you turn now to Defendant's Exhibit 261,

18 page 10?

19   "Dulcimer User Interface." Could you tell us

20 what this is?

21 A.   This is an overview of the various buttons and

22 display technology and scroll wheel technology that was

23 going to be used -- we didn't turn out that we had this

24 many buttons, but this was an early UI drawing of what it

25 could look like.

1155

1 Q.   What was the scroll wheel?

2 A.   The scroll wheel is Number 6 and what it was was a

3 mechanical wheel that just went round and round and round

4 and gave us an input of whether people were turning it

5 clockwise or counterclockwise.

6 Q.   Was that just something you could buy in the

7 marketplace at the time?

8 A.   No.   The scroll wheel was something that, you

9 know, we were first to pioneer on digital-audio players

10 and it was made up of a set of different components,

11 mechanical ones that were custom-made and optoelectronics

12 that we purchased from other vendors and we designed it

13 all together and made a scroll wheel. We took -- we

14 didn't buy one.

15 Q.   If we could turn to page 12, please. It says

16 "Dulcimer vs. Competitors." Could you explain this

17 slide, please?

18 A.   This was a competitive stack-up of our major

19 features -- transfer rate, charging time, playback time,

20 size and weight -- versus the other jukeboxes of the

21 time, kind of the better-known jukeboxes of the time.

22 So, it was just really breaking down the features and

23 making sure that we were competitive.

24   And if you look at the gray -- or the

25 grayed-in areas, we believed we were besting them in each

1156

1 of those categories, either by a little or by a lot.

2   In the case of if you look at transfer rate,

3 because we were using FireWire instead of USB, we were at

4 8 minutes to transfer 5 gigabytes versus the other ones

5 which were hours.

6 Q.   Why was that?

7 A.   Well, that's because we used FireWire, which

8 FireWire was 10 times to -- depends on how it was used --

9 10 to 50 times faster than USB 1.0.

10 Q.   Did the other -- the NOMAD jukebox, the ARCHOS

11 jukebox and the HanGo PJB use USB?

12 A.   USB 1.0, yes, they did.

13 Q.   Okay.

14 A.   Yeah, I -- maybe not the HanGo.

15 Q.   Okay. Did any of those use IrDA to transfer

16 songs?

17 A.   No, they did not.

18 Q.   How long do you think it would have taken to fill

19 up the 5-gig hard drive with IrDA?

20 A.   Well, if this was USB and it was 3 hours and 28

21 minutes for the NOMAD jukebox, times it by 10; and that's

22 on a good day, if the sun wasn't hitting it and it was

23 perfectly aligned. It would be about 30 to 32 hours if

24 you used IR transport as opposed to 3 hours for USB 1.0.

25   MR. STEPHENS: Okay. We can put that down for

1157

 1 now.

 2 BY MR. STEPHENS:

 3 Q.   Now, you talked about the schedule with

 4 Mr. Schutz, how you started as a contractor in February

 5 and were able to launch the product in October.

 6 A.   Yes.

 7 Q.   Why was that such a fast schedule?

 8 A.   Well, there were really two to three reasons for

 9 that schedule. The first reason is just a -- is a

10 business reason. 60 percent of all electronics --

11 consumer electronics are purchased in the Christmas

12 season. Right? And, so, to get a product out there and

13 get people to buy it, it's best to do it when people are

14 buying products. And, so, one reason for the schedule

15 was let's make Christmas timeframe. And we just made it,

16 just, you know, real, real close. It was two weeks

17 before Thanksgiving.

18   And then another reason was literally we

19 didn't want a competitor to build a device that was

20 similar. Right? These are technologies that, you know,

21 if Apple can acquire them, other people can acquire them,

22 too. And companies such as Sony, which had the

23 industry-leading Walkman brand and products, who they

24 were Number 1 in audio for, I think, 15 years, 16 years

25 since the Walkman started, I personally -- and I even

1158

1 mentioned this to the executive team at Apple. I was

2 like, "How are we going to beat Sony? Show me why we're

3 not going to cancel this project when Sony comes out with

4 a competitive product. Because they're going to just

5 bowl us over."

6   So, we had to get this out; and we had to get

7 it out as quickly as we possibly can. Obviously it had

8 to be high quality; but it had to be as quickly as we

9 possibly can to make sure no competitors, you know,

10 stumbled in and created the same magic formula of a

11 product because we weren't -- you know, we were doing

12 lots of things that were innovative; but other people

13 could do that, too.

14   And then the third reason really is I was a

15 new guy. I was at Apple. I had to build a whole team.

16 I had to prove myself. I had to prove that our team

17 could build something and build something to Apple

18 quality. And, so, I set out an audacious goal for myself

19 and my team to say, "We are going to ship this before

20 Christmas." No one believed us at Apple. The executive

21 team at Apple did not believe that we could do this. I

22 just knew from my seven years of -- or my 10, 12 years of

23 shipping products, that ship it before Christmas and ship

24 it as fast as possible before the competitors get it out

25 so that hopefully I can make my mark at Apple and we can

1159

 1 live another day and they won't cancel us or cancel our

 2 team or cancel our project. So, I personally put, you

 3 know, my reputation on the line so that, you know, I

 4 could do the best thing for our team, to be seen like the

 5 Mac team that had been around for 10, 20 years at that

 6 point. I wanted us to be equals with the rest of the

 7 engineers, not just some little guys.

 8   THE COURT: All right. Counsel, we're going

 9 to take a break at this time.

10   Ladies and gentlemen, I'll ask you to be back

11 at quarter of.

12   (The jury exits the courtroom, 3:30 p.m.)

13   THE COURT: We'll be in recess until quarter

14 of.

15   (Recess, 3:31 p.m. to 3:45 p.m.)

16   (Open court, all parties present, jury not

17 present.)

18   MR. HOLDREITH: Your Honor, there was one

19 other issue I wanted to alert the court to that may come

20 up in Dr. Almeroth's cross when that gets underway next.

21 I think Mr. Stephens intends to bring up some file

22 history with Dr. Almeroth, and I'm concerned it may go to

23 claim construction. So, I'll listen to the questions and

24 object if necessary but --

25   THE COURT: Okay.

1160

 1   MR. HOLDREITH: -- I just wanted to advise you

 2   that might come up.

 3   THE COURT: All right. And Almeroth is not

 4   allowed to talk about claims because?

 5   MR. HOLDREITH: Oh, only -- I was concerned

 6   that -- I don't think it's appropriate to raise questions

 7   that -- to try to re-argue the court's claim

 8   construction.

 9   MR. STEPHENS: Your Honor, I think he talked

10   quite a bit about --

11   THE COURT: With Almeroth?

12   MR. STEPHENS: -- definitions of claims and

13   the claim construction.

14   MR. HOLDREITH: My only concern --

15   THE COURT: I'll listen to the question. I

16   mean, we're not going to have anybody dispute my claim

17   construction until you get up to the next level.

18   MR. STEPHENS: Not my intention, your Honor.

19   THE COURT: The higher court will obviously

20   look at it closely, I'm sure; but, you know, it just

21   wouldn't work to have the witnesses do it now.

22   (The jury enters the courtroom, 3:47 p.m.)

23   THE COURT: Go ahead, counsel.

24   MR. STEPHENS: Thank you, your Honor.

25   *

1161

 1 BY MR. STEPHENS:

 2 Q.   Mr. Fadell, just a couple more topics.

 3   Did anyone at Apple tell you that you had to

 4 ship the iPod by October of 2001?

 5 A.   Not to my recollection, no.

 6 Q.   Did any executive say, "Mr. Fadell, you've got to

 7 get that out by October?"

 8 A.   There was no specific date, but obviously everyone

 9 would like it to ship sooner rather than later. But, you

10 know, October was almost impossible to do. So, no one

11 could ask you to do ludicrous things.

12 Q.   How did you get it done on that schedule?

13 A.   Well, as I mentioned previously, luckily I had

14 been in the Silicon Valley for many years already at that

15 point; and, so, I was able to take my -- a few people

16 from the start-up that I had and was able to build a team

17 from those people as well as some other people around

18 Silicon Valley that I had known from General Magic and

19 Phillips and be able to quickly assemble a team. That

20 was the first thing. So, you need people, because a lot

21 of the other people at Apple were predisposed working on

22 their things.

23   The other thing was that I pulled in various

24 vendors of -- software and hardware vendors that had --

25 they also had a team that could help us create the

1162

1 product. And, so, it was literally a whole set of

2 different people from Pixo, the software company that we

3 licensed, people -- they actually put engineers on and

4 helped us create our application. We had software and

5 hardware engineers from PortalPlayer who created the chip

6 as well as some of the software. They came onto our

7 team, and I literally set up an office inside -- or an

8 office space inside of Apple where we would have all of

9 these different contractors helping us as well and all

10 these various other parties helping us.

11   So, it was like one big company, one little --

12 well, I should say a start-up company inside of Apple

13 with all of these resources from all these different

14 companies all working side-by-side to get this together

15 because it's hard enough just to try to recruit people in

16 Silicon Valley but to be able to create a team kind of

17 instantly was the reason why we were able to do that.

18 Q.   Now, you mentioned a magic formula for the iPod.

19 Do you remember that?

20 A.   Yes.

21 Q.   What did you say that magic formula was?

22 A.   Well, the magic formula is really a lot of

23 different things. But the first thing was a thousand

24 songs in your pocket. No one had ever done that before.

25 Sony was the first one to put music in your pocket, but

1163

1 we put a thousand songs in your pocket; so, that was an

2 innovation.

3   It had a long battery life. So, you could

4 play 12, 15 hours of continuous music.

5   You could put a thousand songs on the product

6 very quickly and charge the product very quickly. So,

7 that was an innovation.

8   We had a user interface that people could

9 actually use. So, that was -- the display, the user

10 interface on the display as well as the scroll wheel, so

11 that it was intuitive interface as well as it was easy to

12 find the songs that you wanted to get to in the thousand

13 songs in your pocket.

14   And then we also had the *iTunes* desktop

15 client. So, *iTunes* was the client that basically put all

16 the music onto the iPod. It downloaded all the music to

17 the iPod so that it was a really simple interface to use.

18 People had already been using it, and that's another

19 piece of the innovation was just that having *iTunes*

20 easily sync the data onto the iPod.

21 Q.   Now, you talk about the syncing process. How did

22 that work?

23 A.   Well, it wasn't really syncing as we know it.

24 That's what a lot of people call it. But technically

25 what we really were doing, because it was a hard drive,

1164

1 was we just treated it like a hard drive.

2   So, what you would do is when you plugged the

3 iPod into the FireWire port, you would plug it in and the

4 music player would just turn into a hard drive. And then

5 just like any external hard drive or the one inside your

6 computer, it would just put files onto the hard drive.

7 So, it treated it like a file system. It was very

8 simple. There was no synchronization going on because

9 the iPod didn't create any data really. It was moving

10 all the data from the computer that you selected onto

11 this hard drive; and then when you took the wire out of

12 the iPod, then it rebooted itself basically and turned

13 into a music player and started to read the data off the

14 hard drive to play songs.

15 Q.   Was there any kind of client-server relationship

16 between the iPod and the computer?

17 A.   No. It was basically -- when the iPod was

18 connected to the computer, it was a dumb hard drive.

19 Q.   So, did it send any kind of request?

20 A.   No. No. Not that I'm aware of.

21 Q.   What technologies were the most important for

22 making the iPod?

23 A.   We were the first ones to ship a 1.8-inch hard

24 drive.

25   We were the first to ship lithium-polymer

1165

1 batteries, a thin foil, thin film battery in a consumer

2 product in volume.

3   We were the first product to have scroll wheel

4 technology on a digital music player.

5   We were the first ones with a -- well, I

6 think -- was an intuitive user interface that you could

7 actually use on a digital music player.

8   I could go on to -- you know, the way it was

9 designed and -- I could just keep going on; but those are

10 kind of the primary features, technology features.

11 Q.   How much did it cost to develop the original iPod?

12 A.   Well, it depends on how you count. But -- because

13 I wasn't responsible for all the operations, budgets and

14 some of the manufacturing budgets and things of that --

15 or marketing budgets. But to develop the product from

16 when it started to when it's done, probably around

17 between 5 to 7, maybe 8 million, somewhere in that range,

18 dollars.

19 Q.   Was that amount of money a problem for Apple.

20 A.   Well, Apple was -- it didn't have money to throw

21 around. It needed a return on investment. So, every

22 dollar -- it wasn't Apple was bankrupt by any means. It

23 wasn't that it was going broke. But you wanted -- you

24 know, like any good company, you've got to watch your

25 cash tightly and you've got to make sure that you're

1166

 1 | making investments that are going to have a return. And

 2 | so, you know, when we asked for the budget for this

 3 | project, obviously our executive team said yes because

 4 | they believed in it and then we had to go and spend that

 5 | money wisely to create the product.

 6 | Q.   Have you ever heard of Personal Audio before this

 7 | case?

 8 | A.   No, I have not.

 9 | Q.   Have you ever heard of Dan Goessling before this

10 | case?

11 | A.   No, I have not.

12 | Q.   Ever heard of James Logan before this case?

13 | A.   No, I have not.

14 | Q.   Ever heard of Charles Call before this case?

15 | A.   No, I did not.

16 | Q.   Have you ever seen the patents in this case?

17 | A.   No, I have not.

18 | Q.   Have you ever seen any patent that any of those

19 | people or Personal Audio were inventors on?

20 | A.   Not before this case, no.

21 | Q.   How do you feel about your work on the iPod?

22 | A.   You know, looking back it was ten years ago really

23 | like this month when we were knee-deep in it and, you

24 | know, I never thought it was going to turn into the

25 | success it did -- or the smashing success. There's

1167

 1 success, and then there's grand slam. And I'm just --

 2 I'm just grateful and honored that I was able to be able

 3 to contribute in this way to, you know, make a lot of

 4 people pretty happy.

 5 Q.   Are you proud of your work on the iPod?

 6 A.   Absolutely.

 7 Q.   Do you tell your kids about it?

 8 A.   And hopefully my grandkids.

 9 Q.   Thanks, Mr. Fadell.

10 A.   Thank you.

11   MR. STEPHENS: Pass the witness.

12   THE WITNESS: And also I'd like to say

13 thank --

14   THE COURT: Wait. Wait.

15   THE WITNESS: Oh, sorry.

16   THE COURT: There's no question up.

17   THE WITNESS: Sorry.

18   MR. SCHUTZ: Mr. Fadell, I know you have a

19 plane to catch. You're eager to get back to California.

20 Have a safe travel. No further questions.

21   THE COURT: Thank you. You may step down,

22 sir.

23   THE WITNESS: Thank you.

24   THE COURT: Next witness?

25   Actually we're back with Dr. Almeroth, aren't

1168

1 we?

2   MR. SCHUTZ: We need about two minutes to do

3 musical chairs, your Honor.

4   THE COURT: Go ahead.

5   MR. STEPHENS: Okay.

6   CONTINUED CROSS-EXAMINATION OF KEVIN C. ALMEROTH

7 BY MR. STEPHENS:

8 Q.   Ready, Dr. Almeroth?

9 A.   Yes, sir.

10 Q.   Okay. Dr. Almeroth, if you would, turn back to

11 the "asserted claims" tab in your binder, which is the

12 same as the jury notebook "asserted claims" tab. I'd

13 like to turn to that '178 patent, which is page 4.

14 A.   Okay.

15 Q.   Did you testify earlier today that the first

16 claim, claim 1 of the '178 patent, is literally infringed

17 by accused products?

18 A.   For this claim I testified that it infringed

19 through the doctrine of equivalents.

20 Q.   Okay. And which elements -- now, when a product

21 infringes under the doctrine of equivalents, that's

22 because one of the elements is not literally present; is

23 that true?

24 A.   I believe that's true.

25 Q.   Okay. Which element is not literally present in

1169

1 the accused products for claim 1 of the '178 patent?

2   THE COURT: '178 patent or '076?

3   MR. STEPHENS: '178, your Honor.

4 A.   That's limitation 1A.

5 BY MR. STEPHENS:

6 Q.   And that's "a communications port for establishing

7 a data communications link for downloading a plurality of

8 separate digital compressed audio program files and a

9 separate sequencing file from one or more server

10 computers"; is that right?

11 A.   Yes, that's correct.

12 Q.   Okay. Any other elements that are not literally

13 present?

14 A.   No.

15 Q.   All right. Now, if you'd turn the page to page 6

16 of the "asserted claims" tab in the juror binder,

17 claim 2, did you testify earlier today that claim 2 is

18 literally met?

19   THE COURT: Okay. Counsel, maybe we have

20 different page numbers; but page 6 had claim 1 on it in

21 my book.

22   MR. STEPHENS: Oh, I apologize. Well, let's

23 just use the claim numbers instead then, your Honor.

24   THE COURT: All right. You're talking about

25 the '178 patent, right?

1170

1   MR. STEPHENS: The '178 patent.

2   THE COURT: Okay.

3   BY MR. STEPHENS:

4   Q.   Do you have that in front of you, Dr. Almeroth?

5   A.   I do.

6   Q.   Did you testify earlier today that claim 2 is

7   literally infringed, claim 2 of the '178 patent?

8   A.   Yes, I did. And you understand that that's not

9   one of the asserted claims. It's claim 6; and then

10 claim 6 depends on 5, 4, 3, 2, and then 1.

11 Q.   Okay. And then claim 3, did you testify that

12 claim 3 is literally met in the accused products?

13 A.   Yes, I did.

14 Q.   Okay. Now, both of those claims depend from

15 claim 1; is that correct?

16 A.   That's correct.

17 Q.   So, in fact, your opinion is that the infringement

18 of these claims is under the doctrine of equivalents

19 because claim 1 is not literally infringed, correct?

20 A.   That's correct. I thought you were just asking

21 about the dependent portions with respect to 2 and 3.

22 Q.   Yes, I am; and I just wanted to make that

23 clarification. So, right now I'm asking you about

24 whether or not the limitations of these dependent claims

25 are literally met; and I think you've told me that they

1171

1 are literally met. You believe you testified earlier

2 today that they are literally met for claims 2 and 3 of

3 the '178 patent, correct?

4 A.   That's correct.

5 Q.   Okay. What about claim 4? Did you testify

6 earlier today that the elements of claim 4 of the

7 '178 patent are literally met in the accused products?

8 A.   Yes, I did.

9 Q.   And what about claim 5?

10 A.   The same, literal.

11 Q.   Okay. And claim 6?

12 A.   Literal.

13 Q.   And claim 9?

14 A.   That's also literal. Again, it depends on

15 claim 1. You're just asking about the limitations in

16 claim 9.

17 Q.   That's correct.

18 A.   Yes, that's correct.

19 Q.   Okay. And claim 13?

20 A.   Yes. That's literal as well. Yes.

21 Q.   Okay. So, then for claim -- for all of the claims

22 that depend from claim 1, you believe that you testified

23 earlier today that those elements are all met literally

24 in the accused products, right?

25   MR. HOLDREITH: Your Honor, may I make a small

1172

1 objection? I'm not sure it's an important point, but

2 he's asking about memory of what the witness testified

3 to. It might be more appropriate to ask what the opinion

4 is rather than a memory test.

5   MR. STEPHENS: Your Honor, I'm not -- I'm

6 specifically asking only what he believes he testified to

7 because I'm not trying to give him a new opportunity to

8 testify on these --

9   THE COURT: I didn't sustain the objection.

10   MR. STEPHENS: Okay. Sorry.

11   THE COURT: Overruled.

12 A.   The one point I would make about claim 13 is that

13 it talks about the files that are downloaded from said

14 server. That is part of the court's claim construction

15 that relates to request, and that's the part that I've

16 offered the doctrine of equivalents on.

17 BY MR. STEPHENS:

18 Q.   Okay. So, it's not your view that there is

19 actually a request that is sent from an iPod to a

20 computer, correct?

21 A.   No. I disagree with that.

22 Q.   Well, you said that you're saying that that

23 element is met by equivalents, right?

24 A.   In fact, there is a request; and it's equivalent

25 to what the court has identified as a request as part of

1173

1 its claim construction.

2 Q.   But there's no request as the court has construed

3 that term, correct?

4 A.   Well, I was trying to finish my answer.

5 Q.   Sorry.

6 A.   What I said was there is a request, and the court

7 has a construction for a request. And the request that

8 exists in that iPod is equivalent to the request that the

9 court has identified that's part of the download

10 limitation.

11 Q.   Okay. But as the court's construed it, there is

12 no request, right? If you apply the court's

13 construction, there is no request as the court has

14 defined that term, correct?

15 A.   That's basically correct but just as long as it's

16 clear that I believe that the equivalent of that

17 request -- and that there is, in fact, a request that's

18 there -- just as long as that's clear, then I would agree

19 with you.

20 Q.   So, is there a request; or is there not a request?

21 A.   There is a request.

22 Q.   Okay. But it's not a request as the court's

23 defined "request"?

24 A.   There is the equivalent of that request.

25 Q.   Okay. So, there is; and there isn't a request,

1174

1 depending on who you believe the request -- right? Who

2 you believe has correctly interpreted "request"?

3 A.   No.   That's not what I'm saying at all.   I mean,

4 you're using the word "request" in the same sentence to

5 mean two different things; and I'm just trying to make it

6 clear.

7   There is the request that the court has

8 defined and I'm saying that the request that exists in

9 the accused devices is, in fact, a request but that it's

10 equivalent to what the court has identified as the

11 request --

12 Q.   Okay.   So, you're the one using --

13 A.   -- in the claim construction.   I'm sorry.

14 Q.   You're the one using the word "request" in two

15 different ways, right?   You used the word "request" in

16 your own way when you say it's there and in the court's

17 way when you admit it's not, correct?

18 A.   No.   I'm not sure that's the case.

19 Q.   Okay.   Let's turn now to claim 14 in the juror

20 binder of the '178 patent.   Do you believe you testified

21 earlier today that claim 14 is literally infringed?

22 A.   No.   I testified, as I recall, that it's under the

23 doctrine of equivalents.

24 Q.   Okay.   And which elements are missing?

25 A.   I don't believe any element is missing.

1175

1 Q.   Well, which element is not literally present?

2 A.   The one that is not literally present, I would

3 say, would be 14E; and that's "a communications port for

4 downloading at least some of said audio program files and

5 said playback session sequencing file from said one or

6 more server computers, at least some of said audio

7 program files downloaded from said one or more server

8 computers being selected by said listener from a library

9 of audio program files available from said one or more

10 server computers."

11 Q.   Okay. Any other elements that are not literally

12 present?

13 A.   I believe the rest of the limitations are

14 literally present.

15 Q.   Okay. Now let's go back to the '076 patent. And

16 I believe you testified before lunch that you believed

17 you had testified earlier today that claim 1 was

18 literally infringed; is that correct?

19 A.   That's correct.

20 Q.   Let's turn the page to claim 2. Do you believe

21 you testified earlier today that claim 2 is literally

22 infringed, of the '076 patent?

23 A.   Yes, I do.

24 Q.   Okay. What about claim 3 of the '076 patent?

25 A.   I believe that's literally infringed as well.

1176

1 Q.   And then on the next page, claim 14 of the

2 '076 patent?

3 A.   That is also literally infringed.

4 Q.   Okay. Again, I'm not asking you to tell me your

5 opinions now. I'm asking that you believe that you

6 testified to that effect earlier today; is that correct?

7 A.   That's correct.

8 Q.   Okay. And claim 15, do you believe you testified

9 that that was literally infringed?

10 A.   I do.

11 Q.   Okay. Now, for any of the claims that you've told

12 me that you believe you testified they are literally

13 infringed, have you -- do you believe that you also

14 testified that they are infringed under the doctrine of

15 equivalents? Or is it just literal infringement?

16 A.   I believe at this point it was just literal

17 infringement.

18 Q.   Okay. So, as you understand what you testified

19 earlier today, you believe that the only claims that

20 you've testified have elements that are not literally

21 present in the accused products are '178 claims 1 and 14;

22 is that correct?

23 A.   No. I think that's incorrect.

24 Q.   Okay. What did I miss?

25 A.   You missed claim 6 and claim 13.

1177

1 Q.   Okay. Thank you for that clarification.

2   So, it's your testimony that you believe you

3 testified earlier today that claim 6 of the '178 patent

4 is met under the doctrine of equivalents?

5 A.   That's correct. And that's because claim --

6   THE COURT: Wait. Did you say "isn't" met or

7 "is"?

8   MR. STEPHENS: "Is."

9 A.   And that's because it depends eventually back to

10 claim 1.

11 BY MR. STEPHENS:

12 Q.   Okay. Well, that's true for all of those claims

13 that depend from claim 1, right? I'm trying to draw a

14 distinction. I apologize it's a little difficult, and

15 maybe I haven't made myself completely clear.

16   I'd like to understand which claims that are

17 asserted in this suit, either because they're

18 incorporated into an independent claim or because they're

19 directly asserted, you believe you have testified are met

20 under the doctrine of equivalents and not literally.

21 A.   Okay. That's claim 1.

22 Q.   Of '178?

23 A.   Of the '178 patent.

24   Claim 6 of the '178 patent, claim 13 of the

25 '178 patent, and claim 14 of the '178 patent.

1178

1 Q.   Okay. And all the rest of the asserted claims in

2 this case you believe you have testified are infringed

3 literally and not under the doctrine of equivalents,

4 correct?

5 A.   That's correct.

6   THE COURT: Well, it -- okay. Ladies and

7 gentlemen -- and let's not play games here, counsel.

8 We've got structural equivalents -- and we've talked

9 about this before -- and then the doctrine of

10 equivalents. The courts have chosen to use the exact

11 same word for both of them. Let's be very sure what

12 we're asking the witness.

13   And, ladies and gentlemen, what we're talking

14 about here is, as you'll see in the definitions, I have

15 identified certain items as means-plus-function claims

16 and then I've given you a function and then I've

17 identified for you what the structures are.

18   So, for example, in your definitions on

19 page 3, you have there a "means for detecting a first

20 command indicative of a request to skip forward." And

21 then I tell you this is a means-plus-function limitation

22 and then I give you a definition, what the function is;

23 and then I tell you what the structures are. And those

24 are structures that I have determined are actually in the

25 specifications. The patent itself says these structures.

1179

1   Now, when they're talking about an equivalent,

2   what they're saying is that -- or the witness is saying

3   is that there was another structure, another -- that

4   could substitute for it and it was known and available at

5   the time. It couldn't be something that was invented

6   years and years later. It has to be as of the time the

7   patent came out, and it would have to perform and do that

8   same function.

9   Now, I'm going to instruct you in more detail

10 on this at the end in writing; but that's what they're

11 talking about, because there also is going to be on these

12 claims doctrine of equivalents which is -- has a

13 different definition. But when we're talking about the

14 structure, the structural equivalent that you're asking

15 about, that's what we're talking about. If you mean

16 something different or think it means something

17 different, now is the time to bring it out because I

18 don't think it's fair to go through this and later on

19 then say, "Oh, well, doctrine of equivalents, structural

20 equivalents" -- I don't want that --

21   MR. STEPHENS: Your Honor, can I just clarify

22 what I was after?

23   THE COURT: Sure.

24   MR. STEPHENS: And then I'll ask the witness

25 questions to make sure it is completely clear.

1180

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 1            THE COURT:  All right.
 2            MR. STEPHENS:  I was asking only about the
 3  doctrine of equivalents.  I am going to go to 112 ¶6
 4  equivalents next.
 5  BY MR. STEPHENS:
 6  Q.    Dr. Almeroth, did you understand my questions to
 7  be about the doctrine of equivalents?
 8  A.    So far, I'm assuming all of your questions are
 9  about the doctrine of equivalents.
10  Q.    And, Dr. Almeroth, do you understand the
11  difference between the doctrine of equivalents and
12  infringement by equivalents of a -- or the meeting of a
13  limitation by equivalents under 112 ¶6?
14  A.    I believe I do.
15  Q.    Okay.  Could you tell us what that difference is?
16  A.    I can do my best shot.
17            For 112 ¶6 there's what's called "structural
18  equivalents," and that's -- I think the judge just
19  described it pretty well.  These are for instances where
20  a claim construction has means-plus-function.  It's the
21  special language.  And that's for all of the definitions
22  in the binder that deal with it was a "function for" at
23  the top and then it says "and then a structure or the
24  equivalent of that structure."  That's what's called
25  "structural equivalents."  And that is -- actually, I
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1181

1 believe there they're trying to work on the exact

2 language to give to the jury. But it's basically an

3 insubstantial difference; and this was with respect to,

4 for example, the IrDA link being insubstantially

5 different from USB. That was a structural equivalents

6 component.

7   And, also, with respect to the software

8 algorithms, I had discussed some structural equivalents

9 there as well.

10   But then there is a different aspect that

11 isn't related to means-plus-function; and that's for the

12 doctrine of equivalents, for another term that doesn't

13 have to do with structural equivalents. And the place

14 that I used the doctrine of equivalents in my analysis

15 was with respect to the downloading and then the

16 downloading had an additional definition of transferring

17 and then there was the additional definition of a

18 request.

19   What I found in my analysis is using the

20 doctrine of equivalents, that the request was present

21 through the doctrine of equivalents. And that was --

22 well, I don't think you want me to go back into my

23 analysis.

24 BY MR. STEPHENS:

25 Q.   No, I don't.   Thank you.   Thank you.

1182

1   Now, you mentioned downloading. The claim

2 actually requires downloading from a server, right?

3 A.   (Pausing.)

4 Q.   "One or more server computers"?

5 A.   I'd like to just find that so that I have that in

6 front of me.

7 Q.   Element -- let's see.

8 A.   It's on page 9 of the patent claims asserted by

9 plaintiff, the definition -- oh, sorry, no, the document

10 after that, the '076 and '178 patent claim terms on

11 page 9.

12 Q.   Let's use the claim elements, element 1A of the

13 '178 patent.

14   MR. STEPHENS: If we could blow up element 1A,

15 please.

16 BY MR. STEPHENS:

17 Q.   That requires "downloading a plurality of separate

18 digital compressed audio program files and a separate

19 sequencing file from one or more server computers."

20 Right?

21 A.   Yes. That's correct.

22 Q.   Okay. And you didn't identify any Apple documents

23 that describe the iPod was downloading from a server,

24 correct? They don't use those words.

25 A.   They don't use those words; but, in fact,

1183

1 that's --

2 Q.   Thank you. Thank you.

3 A.   -- in fact, what it does.

4 Q.   And claim 14 also requires, within element 14E of

5 the '178 patent --

6   MR. STEPHENS: If we could go to that.

7 BY MR. STEPHENS:

8 Q.   That also requires "downloading at least some of

9 said audio program files and said playback session

10 sequencing file from said one or more server computers."

11 Correct?

12 A.   In fact, it does. And because it's underlined,

13 that means the court has given a construction for that

14 and that's in the next part and that's actually what I'm

15 looking at. And that says --

16 Q.   Thank you, sir. I'm not asking for that yet. We

17 will get to the court's claim constructions, but I was

18 asking you whether the words "one or more server

19 computers" is what's downloaded from.

20 A.   That's what's part of the claim term, but what you

21 have to do is absolutely consider the court's

22 construction.

23 Q.   Okay. I agree with that. Thank you for that

24 clarification.

25   So, just to be clear, then, it's only the

1184

1 limitations that require downloading from one or more

2 server computers that you believe you've testified are

3 met under the doctrine of equivalents; is that correct?

4 A.   That's correct.

5 Q.   Okay. Now I want to talk about

6 means-plus-function claims and meeting those by

7 structural equivalents. So, is it true, Dr. Almeroth,

8 then, that you have not applied the doctrine of

9 equivalents to any claim that has been construed as a

10 means-plus-function -- excuse me -- to any limitation

11 that has been construed as a means-plus-function

12 limitation; is that right?

13 A.   That is correct.

14 Q.   Okay. Now, you have, however, testified that some

15 of those limitations are met by structural equivalents;

16 is that correct?

17 A.   Yes, I have.

18 Q.   Okay. I want to talk about that for a minute and

19 I think maybe the easiest way to do that is to use the

20 patent claim "terms" section in the juror notebook.

21 Let's just walk through the ones that are

22 means-plus-function limitations.

23   The first one is "means for storing a

24 plurality of program segments." Do you believe that you

25 testified earlier today that the structure that the court

1185

1 has identified for means for storing a plurality of

2 program segments is met identically in the accused

3 products?

4 A.   Yes, it is.

5 Q.   Okay.

6 A.   And do you want to talk about -- in some cases

7 I've testified that it was literally present. In some

8 cases I also testified that if somebody were to disagree

9 with that opinion, that it would also be there by

10 equivalents.

11 Q.   Okay. Well, I would like for you to identify for

12 me the ones you believe you have already testified are

13 met by equivalents, whether it's as an alternative to

14 being identically found or in combination with.

15   So, for the "means for storing a plurality of

16 program segments," is it your belief that earlier today

17 you testified that that structure that the court

18 identified is also met in the accused products by

19 equivalents?

20 A.   I don't recall that to be the case. I believe it

21 was just literal for that structure.

22 Q.   Okay.

23 A.   That that structure was literally present.

24 Q.   All right. And then let's -- well, let's just

25 make sure the jury understands what you did. So, when

1186

 1 you were analyzing these claims, you looked at the

 2 court's definition; is that right?

 3 A.   Yes, I did.

 4 Q.   And that's shown in the middle column here; is

 5 that correct?

 6 A.   That's correct.

 7 Q.   And that middle column says "This is a

 8 means-plus-function limitation" -- if the court has found

 9 it to be construed in the manner that we've been talking

10 about now, right?

11 A.   I think I understand your question.

12 Q.   Let me rephrase it.

13 A.   Okay.

14 Q.   If it's a means-plus-function limitation, the

15 court says so in this table, right?

16 A.   So far it does, yes.

17 Q.   Okay. And the court also says what the function

18 for that limitation is, right?

19 A.   It does.

20 Q.   And in this case "The function is 'storing a

21 plurality of program segments,'" right?

22 A.   That's correct.

23 Q.   And then the court also identifies the structure.

24 So, for this claim (reading) the structure corresponding

25 to the function, the "storing" function, can be the

1187

1 following structures and equivalents thereof. Do you see

2 that?

3 A.   I do.

4 Q.   Okay. And that structure is from the

5 specification or the written description portion of the

6 patent, right?

7 A.   Yes, I believe that's the case.

8 Q.   Okay. So, it's your view that earlier today you

9 testified that the structure that's identified for the

10 "means for storing a plurality of program segments" is

11 literally essentially verbatim found in the accused

12 products; is that right?

13 A.   You've added the word "verbatim." I think the

14 test is that that structure is literally present.

15 Q.   In other words, you read the words here; and those

16 words describe exactly what's in the product; is that

17 right?

18 A.   I would read the description and match up what's

19 here in the description with what's in the product.

20   I mean, for example, this particular structure

21 at Number 1 says it's both high-speed RAM and a

22 persistent mass storage device and then it gives an

23 example of a mass storage device, "such as a magnetic

24 disk memory." The requirement here is high-speed RAM

25 storage and a persistent mass storage device, and then

1188

1 the rest of it is an example. So, I'm having a little

2 trouble reconciling your question with it has to appear

3 verbatim in the product. I think it just literally has

4 to meet that structure.

5 Q.   Okay. Let's try to maybe draw a line here that

6 might help the jury understand these confusingly similar

7 terms.

8   Before we were talking about literal versus

9 doctrine of equivalents. Do you remember that?

10 A.   Yes.

11 Q.   Can we use the word "identical" instead of

12 "literal" when we're talking about structural

13 equivalents?

14 A.   I...

15   THE COURT: Well, counsel, that's not the

16 definition they're going to get. You're not going to

17 make up your definitions on this. I've tried to discuss

18 this with both sides earlier. You've chosen not to come

19 up with it. You're not going to come up with your new

20 ones on your cross-examination. This is one of the most

21 confusing cross-examinations that I've seen in a long

22 time. I'm coming to the conclusion it's almost

23 deliberately so, and I'm not going to allow that to build

24 in error later on. So, don't come up with new words.

25 You had your chance to come up with an agreed definition

1189

1 earlier. You chose not to take it; so, now you'll use

2 the ones that come out of the cases.

3   MR. STEPHENS: I apologize, your Honor. We

4 have been trying to work with the other side to reach an

5 agreed definition, and I expect that we will provide one.

6 I just haven't done it yet. I apologize.

7   Okay. Well, I'll ask the witness to use his

8 own words, your Honor.

9 BY MR. STEPHENS:

10 Q.   All right. So, Dr. Almeroth, for the -- let's

11 move down to the next limitation, the "means for

12 receiving and storing a file of data establishing a

13 sequence."

14 A.   Yes.

15 Q.   Is the structure there -- how does that appear in

16 the product, as you testified earlier today?

17 A.   As I recall, I testified that this is where the

18 USB and FireWire were equivalent structure to Number 4 on

19 this list, the radio or infrared link for connecting to a

20 local communications server computer linked to the

21 Internet.

22 Q.   Okay. And only by equivalents?

23 A.   Yes.

24 Q.   Okay.

25 A.   Equivalent structure, just...

1190

1 Q.   Let's move down the list then to "means for

2 accepting control commands from a user of said player."

3 A.   Yes, sir.

4 Q.   Do you believe you testified earlier today that

5 that structure is found in the accused products; and, if

6 so, how?

7 A.   I have. I believe that it's literally present

8 with Number 2. I described that as the keyboard, that

9 the buttons on the device were literally a keyboard. And

10 then I also testified that if somebody were to disagree

11 with that opinion -- which I, of course, would disagree

12 with that disagreement -- that the equivalent structure

13 of a keyboard would be present.

14 Q.   And do you believe you testified that it was also

15 present by equivalents?

16 A.   Yes. Equivalent structure.

17 Q.   Okay. Let's move on to "means for continuously

18 reproducing said program segments in the order

19 established by said sequence in the absence of a control

20 command." Is the structure there found literally or

21 equivalently or both in the accused products as you

22 testified earlier today?

23 A.   This one I would divide up into two parts based on

24 what is the hardware component and then also the software

25 component of this structure.

1191

1   I testified with respect to the sound card

2 that I thought it was literally present but that I also

3 thought that the sound card was present under structural

4 equivalents.

5   With respect to the algorithm, I believe I

6 testified that the algorithm -- the equivalent structure

7 to that algorithm was present in the accused devices.

8 Q.   I'm sorry. Did you say the equivalent structure?

9 A.   Yes, sir.

10 Q.   But not the literal structure?

11 A.   That's correct.

12 Q.   What about the other structural items in the

13 claim?

14 A.   I believe I testified that those were literal.

15 Q.   And not equivalent?

16 A.   And just -- maybe you could go through them just

17 so that it's clear what you mean by "the other ones."

18 Q.   Okay. Headphones?

19 A.   That's literal.

20 Q.   One or more speakers?

21 A.   That is -- it's an "or," and it's literal for

22 "headphones or one or more speakers."

23 Q.   And then I guess the rest is "a general purpose

24 computer programmed to perform the algorithm."

25 A.   Yes. I believe that's literally present.

1192

1 Q.   I'm sorry. I thought you said the algorithm was

2 equivalent.

3 A.   Oh, I was focusing on the general purpose

4 computer, that that's literally present. And then the

5 algorithm itself is by structural equivalents.

6 Q.   Okay. Let's move on, then, to the "means for

7 detecting a first command indicative of a request to skip

8 forward." What do you believe you said earlier today

9 about whether the structure corresponding to that

10 limitation is found in the accused products?

11 A.   Well, for this one, this is one that I understand

12 Apple is not contesting. But I recall from my analysis

13 that with respect to the structure, it literally has a

14 general purpose computer; and I believe that for the

15 algorithm that's there, that's literally present or

16 present by structural equivalents.

17 Q.   Okay. Let's move on, then, to "means responsive

18 to said first command for discontinuing the reproduction

19 of the currently playing program segment and instead

20 continuing the reproduction at the beginning of a program

21 segment which follows said currently playing program in

22 said sequence."

23 A.   For that one I've identified that the algorithm is

24 performed through structural equivalents.

25 Q.   And not literally?

1 A.   That's correct.

2 Q.   Let's move on then to -- let's skip the "means for

3 detecting" and move on to the "means responsive to a

4 single one of said second commands for discontinuing the

5 reproduction of the currently playing program segment and

6 instead continuing the reproduction at the beginning of

7 said currently playing program."

8 A.   Yes.

9 Q.   And what do you believe you've testified about

10 with respect to that structure?

11 A.   That that structure is literally present.

12 Q.   And not equivalent?

13 A.   I think if somebody were to disagree with me, then

14 I would argue that it was under structural equivalents.

15 Q.   Okay. Let's move on, then, to the "means

16 responsive to the detection of two consecutive ones of

17 said second commands for discontinuing the reproduction

18 of the currently playing program segment and instead

19 continuing the reproduction at the beginning of a program

20 segment which precedes the currently playing program

21 segment."

22 A.   I believe I recall testifying that that was by

23 structural equivalents.

24 Q.   And not literal?

25 A.   That's correct, that the structure was not

1194

 1 literally present.

 2 Q.   And what about "input means for accepting control

 3 commands from a user"?

 4 A.   That's similar to the other one with respect to

 5 means for accepting control commands. I believe I

 6 testified that there was literally that structure that

 7 was present -- that was the keyboard -- and that if

 8 somebody were to disagree with that opinion, I also

 9 believe that this is present through structural

10 equivalents.

11 Q.   And then the next one is "output means for

12 producing audible sounds in response to analog audio

13 signals."

14 A.   I believe the structure -- the corresponding

15 structure is literally present.

16 Q.   What about equivalents?

17 A.   I think it's literal.

18 Q.   Okay. Next is "processing means for translating

19 said digitally recorded audio program segments into

20 analog audio signals delivered to said output means for

21 reproducing said recorded program segments in a form

22 audible to said user." What did you testify earlier

23 today about that structure that corresponds to that claim

24 element?

25 A.   I believe I've testified that that is

1195

1 structural -- the structure is literally present, but I

2 also believe that it's also -- the structure is -- an

3 equivalent structure is present.

4   I'm sorry. Let me just be clear about that.

5 I believe that that structure is literally present or the

6 equivalent of that structure is present.

7 Q.   Okay. Let's move on, then, to the "processing

8 means responsive to a first one of said control commands

9 for discontinuing the translation of the currently

10 playing program segment and instead continuing the

11 translation at the beginning of the next program segment

12 in said sequence."

13 A.   I recall that I've testified that that was present

14 through structural equivalents.

15 Q.   And not literally?

16 A.   That's correct.

17 Q.   Okay. Let's move on, then, to "processing means

18 responsive to a second one of said control command for

19 discontinuing the translation of the currently playing

20 program and instead continuing the translation at the

21 beginning of said currently playing program."

22 A.   I believe that I testified that that was -- that

23 that structure was literally present or at least the

24 equivalent of that structure was present.

25 Q.   So, both?

1196

1 A.   Yes.

2 Q.   Next is "means responsive to two consecutive ones

3 of said second control commands for discontinuing the

4 translation of the currently playing program and instead

5 continuing the translation at the beginning of a program

6 segment which precedes said currently playing program in

7 said sequence."

8 A.   To that one, I believe I've testified that there

9 was structural equivalents for that algorithm.

10 Q.   And not literal?

11 A.   That's correct.

12 Q.   Okay. So, those are the means-plus-function

13 limitations of the '076 patent, correct?

14 A.   Yes.

15 Q.   All right. Let's perform the same slog through

16 the means-plus-function limitations of the '178 patent.

17 So, I believe the first one is "a processor for

18 continuously delivering a succession of said audio

19 program files in said collection to said audio output

20 unit in said ordered sequence specified by said

21 sequencing file in the absence of a program selection

22 command from said listener."

23 A.   Okay.

24 Q.   What do you believe you testified earlier today

25 about with respect to the structure that the court has

1197

1 identified for that limitation?

2 A.   For this one I believe I've testified that the

3 structure is literal or equivalent for the sound card.

4 Q.   And what about for the rest of the claim?

5 A.   And then for the algorithm, I believe I've

6 testified that that is structurally equivalent.

7   Actually, on that -- hold on just a second,

8 please. Let me just read the structure here to make

9 sure.

10   Yes.   That's structural equivalents.

11 Q.   Okay. Next is "a processor for discontinuing the

12 reproduction of the currently playing audio program file

13 and instead continuing the reproduction at the beginning

14 of a listener-selected one of said audio program files in

15 said collection in response to a program selection

16 command from said listener." What do you believe you

17 testified earlier today about with respect to the

18 structure the court has identified for that limitation?

19 A.   I believe that I've testified that that structure

20 is literally present or present by equivalent structure.

21 Q.   Now, when you say literal or equivalent, do you

22 mean that you believe you testified that if it's not

23 literal, then it's equivalent? Or that it's both literal

24 and equivalent?

25 A.   Well, I believe that if somebody were to disagree

1198

1 with my opinion that it was literally present, obviously

2 I would disagree with that. But if the jury were to find

3 that that was not literally present, then I believe it's

4 there by structural equivalents.

5 Q.   Okay. Let's move on to the next limitation. This

6 one, I believe, is "wherein said processor responds to a

7 skip forward program selection command accepted from said

8 listener by discontinuing the reproduction of said

9 currently playing audio program file and instead

10 continuing the reproduction at the beginning of that

11 audio program file which follows said currently -- audio

12 program file in said ordered sequence specified by said

13 sequencing file."

14 A.   I believe for the algorithm, that I testified that

15 it was the structural equivalents.

16 Q.   And not literal?

17 A.   That's correct.

18 Q.   Okay. Next one, "wherein said processor responds

19 to a skip backward program selection command accepted

20 from said listener at a time when said currently playing

21 audio program file has played for at least a

22 predetermined amount of time by discontinuing the

23 reproduction of said currently playing audio program file

24 and instead continuing the reproduction at the beginning

25 of said currently playing audio program file." What do

1199

1 you believe you testified earlier today about with

2 respect to the structure the court has identified for

3 that limitation?

4 A.   That that structure is literally present and if

5 not literally present, then present by equivalent

6 structure.

7 Q.   Okay.   The next means-plus-function limitation is

8 "wherein said processor responds to a skip backward

9 program selection command accepted from said listener at

10 a time when said currently playing audio program file has

11 not yet played for said predetermined amount of time for

12 discontinuing the reproduction of the currently playing

13 program segment and instead continuing the reproduction

14 at the beginning of a program segment which precedes the

15 currently playing program segment in said ordered

16 sequence specified by said sequencing file."   Wow.   That

17 was a mouthful.

18   What do you believe you testified earlier

19 today with respect to the structure the court has

20 identified for that claim limitation?

21 A.   I believe that I've testified that that algorithm

22 is present by structural equivalents.

23 Q.   And not literally?

24 A.   That's correct.

25 Q.   Well, I'm not sure what the best way to approach

1200

1 the next one is. I guess I would ask you, Dr. Almeroth,

2 to identify, if you could, the portions of the

3 construction for the last element in the court's

4 definitions, which is for '178 patent claim 14 by the

5 paragraphs. And I think that they are labeled with

6 either numbers or letters for the most part.

7   In other words, tell me which of those --

8 actually, let me pause for a moment. I think maybe I can

9 figure a better way to do this. I apologize.

10   So, let's -- I see how to do this.

11   MR. STEPHENS: If we could go to -- partway

12 down the next page, the court has identified the

13 structure corresponding to Function A. Function A is the

14 "go" command and some additional language, and then the

15 structure is identified on the next page.

16   No, we're not there yet. Look for the word

17 "structure."

18   There you go. That's it.

19 A.   Okay. I'm there with you.

20 BY MR. STEPHENS:

21 Q.   Okay. What did you testify earlier today about

22 with respect to the structure the court has identified

23 for Function A?

24 A.   For this algorithm I believe that it's literally

25 present; and if this structure is not literally present,

1 then it's present by structural equivalents.

2 Q.   Okay. And then a little further down there is the

3 structure corresponding to Function B that the court has

4 identified.

5 A.   I see that.

6 Q.   What do you believe you testified about earlier

7 today with respect to that structure?

8 A.   I believe that for that structure, I testified

9 that it was present by structural equivalents.

10 Q.   And not literal?

11 A.   That's correct.

12 Q.   The next page, the structure corresponding to

13 Function C, what was your testimony earlier today about

14 that structure?

15 A.   That it was -- that that structure was literally

16 present and if not literally present, present under

17 structural equivalents.

18 Q.   And last is the structure corresponding to

19 Function D. What was your testimony earlier today with

20 respect to that structure?

21 A.   That with respect to Function D, I believe I

22 testified that that was present by structural

23 equivalents.

24 Q.   And not literal?

25 A.   That's correct.

1202

1 Q.   Okay.

2 A.   And I was reviewing these to double-check my

3 recollection. There was one that I wanted to go back to.

4 Q.   Which one?

5 A.   That was on page 9, "a processor for continuously

6 delivering a succession of said audio program files in

7 said collection to said audio output unit in said ordered

8 sequence specified by said sequencing file in the absence

9 of a program selection command from said listener."

10   And I said earlier that I believe I had

11 testified that that was only present by structural

12 equivalents, and I believe that the algorithm that I

13 described is --

14 Q.   I just want to make sure that you're not

15 supplementing what you said earlier today. You're just

16 telling me what you believe you testified about earlier

17 today; is that right?

18 A.   That's correct. I believe I described this

19 algorithm in a way that is structurally -- is literally

20 present, that that structure is literally present and if

21 not literally present, then by structural equivalents.

22 Q.   Okay. Now, Dr. Almeroth, I'd like to ask you some

23 questions about some of your demonstrative exhibits.

24   MR. STEPHENS: If we can have up Plaintiff's

25 Demonstrative 1062, please.

1203

1 BY MR. STEPHENS:

2 Q.   You have not offered separate proof for the

3 limitations that we see in a single row of this chart; is

4 that correct? Or your matrix? In other words, all the

5 limitations in the row "player," you've offered the same

6 proof for all of those limitations; is that correct?

7 A.   No. I disagree.

8 Q.   Okay. All right. So, you believe that you

9 offered differing proof for each of those limitations?

10 A.   For the different limitations as it breaks down

11 across the different groups, I believe that I did.

12 Q.   Okay. And that applies to all of these charts; is

13 that correct?

14 A.   Well, in the instances where I believe that there

15 were things worth discussing that were differences, then

16 some of that evidence came in when I discussed, for

17 example, Plaintiff's Demonstrative 1059. Some of the

18 evidence that I've used in the claim matrix that starts

19 with Plaintiff's Demonstrative 1062 and continues through

20 to 1068 was identifying some of the same evidence.

21 Q.   I guess that's what I'm trying to understand is

22 which of these rows you're only offering one set of proof

23 for and which ones you're offering multiple proof for.

24 Is it the case that if you offered differing proof for

25 different columns for a single row, you said so?

1204

1 A.   Well, I think that what you have to understand is

2 over the course of my testimony, there were some

3 documents that described all of the accused devices as,

4 for example, audio players. In other cases for the

5 accused devices, in that very rapid-fire session before

6 lunch, I identified the parts of those documents -- and

7 those ranged across the different groups -- some of the

8 different documents that I used.

9   So, for example, the user guide. So, with

10 respect to identifying support in the different user

11 guides for all of the different products and groups, I

12 identified different portions with respect to what a

13 player was.

14 Q.   Okay. My question is not about the different

15 products at this point. My question is about the

16 different limitations. So, for any given product, you

17 offered the same proof for all of the limitations in any

18 given row of your claim matrix, correct?

19 A.   I have to disagree because the columns consist of

20 groups. I can't take a cell in this table, for

21 example -- let's take this first one, claim 1 through 3

22 of the '076 patent. This cell and this entire row

23 (indicating) is with respect to all groups and then with

24 respect to the classic 6, nano 4, and nano 5. So, it's

25 not the case that I relied only on a single set of

1205

1 documents for everything across the entire row.

2 Q.   Fair enough, and that's why I guess I wasn't very

3 clear. I was trying to qualify it to refer to a single

4 product, and maybe I should have added the qualifier

5 "single product that's accused for all four limitations."

6   In other words, let's say classic 6.

7 A.   Okay.

8 Q.   Is that accused for all of the columns that we see

9 there in the claim matrix?

10 A.   Yes, it is.

11 Q.   Is it the case that you relied on exactly the same

12 proof for all of the limitations in a single row in that

13 matrix?

14 A.   I want to be very careful about using the word

15 "exactly." I used very similar documents when we went

16 through that approach after -- right before lunch I

17 identified a series of documents. Those were all the

18 same documents that I used for that row.

19 Q.   Okay. I don't remember seeing you identify

20 different proof for different columns, and that's why I'm

21 asking. So, is it the case that you did, in fact,

22 identify different proofs for some of the columns for a

23 single product?

24 A.   Well, if we stick with the first one, then I think

25 the answer to your question is that I used the same set

1206

1 of documents for a particular product.

2   As we get to some of these other rows -- I

3 don't know if we have to take each of these rows at a

4 time.

5 Q.   Okay. I'm not just asking about same set of

6 documents. I'm asking about specific proof because you

7 pointed to specific things in some documents. So, are

8 you offering different proof for different claims in the

9 corresponding elements in your claim matrix for a single

10 product?

11 A.   Well, now I'm confused. I'm not sure exactly what

12 you're asking about, the same exact thing.

13 Q.   Well, I'm trying to understand what you believe

14 you put in in terms of proving infringement for all of

15 these different claims. And I thought, I guess -- and

16 maybe I'm wrong about that -- that you grouped these

17 claims together in a single row because you were only

18 going to prove infringement for the row for a given

19 product that was accused in that row and not separately

20 for each claim limitation going across the row. Am I

21 wrong about that?

22 A.   I think you might be. I think I offered an

23 opinion that each of those limitations were present and

24 that I used a similar analysis for each of the cells.

25   Now, the one that I went into more detail

1 about was to that first cell. But with regard to my

2 opinion, I discussed what that opinion was and how I

3 reached it and how it was similar for all of the cells in

4 that particular row.

5 Q.   Okay. I think I understand. So, it should be

6 clear from your testimony when you're relying on

7 different proof for a different cell; is that right?

8 A.   I suppose my testimony -- I hope my testimony was

9 clear. That's what I expect.

10 Q.   Okay. Dr. Almeroth, do you have any patents

11 issued that you invented?

12 A.   No patents issued as of yet.

13 Q.   Okay. Now, we talked about a sound card earlier;

14 and you testified that basically a chip could be a sound

15 card; is that right?

16 A.   I testified that a digital-audio -- digital-analog

17 converter -- that function could be in a sound card which

18 could be implemented as a chip.

19 Q.   So, in other words, a sound card could be just a

20 chip, right?

21 A.   That's correct.

22 Q.   And, in fact, it was your testimony that the

23 single chips that you referred to in your testimony are,

24 in fact, sound cards, right?

25 A.   Yes. That's correct.

1208

1 Q.   Okay. What is a card? In computer science or

2 computer technology, what's a card?

3 A.   The definition of a card could -- well, you're

4 separating "card" from "sound card." The word "sound"

5 gives meaning to card; but using just the general

6 definition of a "card," I believe it can either be a

7 device that's plugged into a computer slot or it's

8 something that can be mounted on a circuit board, for

9 example.

10   I think that the concept of a card can be

11 fairly broadly interpreted.

12 Q.   Okay. Now, you've relied on the IEEE dictionary

13 in your testimony today, right?

14 A.   Yes, I have.

15 Q.   The Sixth Edition?

16 A.   I believe that's correct.

17 Q.   Okay. I've included a copy of a definition for

18 the word "card" from that dictionary at the tab "IEEE

19 definition."

20 A.   Yes.

21 Q.   Do you see that?

22 A.   Yes.

23 Q.   And the definition for "card" is "a printed

24 circuit board and components that make up the modules

25 that plug into the bus backplane." Do you see that?

1209

1 A.   I see that that's the first definition.

2 Q.   Okay. Is that definition consistent with your

3 understanding of the way that term is normally used?

4 A.   That part of the definition -- actually the

5 complete definition certainly does. That first part of

6 the definition, just reading that first part, I think,

7 would be an incomplete understanding of what a card could

8 be.

9 Q.   Okay. Well, the complete Definition Number 1

10 there, "a printed circuit board and components that make

11 up the modules that plug into the bus backplane," that's

12 consistent with your understanding of the meaning of

13 "card," right?

14 A.   As I said, it's part of it. You're only reading

15 the first part.

16 Q.   Well, that's the first definition, right?

17 A.   It's the first part of the definition.

18   I mean, Number 2 says "a generic term used for

19 an abbreviation for a circuit board."

20 Q.   Okay.

21 A.   I mean, that's exactly what I was saying earlier

22 what I thought a card was.

23 Q.   Okay. So, your understanding of a card, then, is

24 "a generic term used for an abbreviation for a circuit

25 board," right?

1210

1 A.   That's part of what the definition is. You have

2 to take this whole definition for what it says for

3 "card," and I think that's consistent with what I

4 described as my definition of a card earlier.

5 Q.   Okay. And a circuit board is something that chips

6 are mounted on, right?

7 A.   Well, that's part of what a circuit board could

8 be.

9 Q.   Okay. And --

10 A.   We could look up the definition for what a circuit

11 board is. I think, for example, a chip could potentially

12 be something that's mounted to a circuit board.

13 Q.   Okay. And a chip in the iPod is, in fact, mounted

14 on a circuit board, right?

15 A.   I believe that to be correct.

16 Q.   Okay. And you're not saying that the chip mounted

17 on the board -- that whole assembly is the sound card.

18 You're saying the chip itself is the sound card?

19 A.   That's correct, and I think it's consistent with

20 this definition.

21 Q.   Okay. But there's no circuit board in the chip,

22 right?

23 A.   It's for the circuit -- the circuit itself -- and

24 often when you have a circuit attached to the board, it's

25 called a "circuit board." And, so, the card would be the

1211

1 circuit that's attached to the board.

2 Q.   Now, do you, when you teach your students at the

3 university, tell them that a chip is a card?

4 A.   I think in the context of talking about a sound

5 card and the function that has to be performed -- this is

6 with respect to the function where we were talking about

7 a sound card. I think that they are basically the same.

8 Q.   I didn't ask you that, sir. I asked if you ever

9 told your students that a chip is a card.

10 A.   I actually can't recall one way or the other.

11 Q.   Okay.

12 A.   It's usually -- trying to make that distinction

13 between a card or a chip is something that's --

14 Q.   Do you ever recall reading -- sorry. Go ahead.

15 A.   Is not something that's really a significant

16 difference.

17 Q.   Okay. But you don't remember ever telling your

18 students that a chip is a card, right?

19 A.   I can't recall a lecture where that specifically

20 came up in the last 14 years.

21 Q.   Okay. And you don't recall ever telling them that

22 a chip is a circuit board, either, right?

23 A.   I certainly can't recall a specific instance

24 sitting here right now.

25 Q.   Okay. Do you recall seeing any academic

1212

1 publications that say a chip is a card?

2 A.   I think we started off talking about something a

3 little bit different with respect to what a sound card

4 could be, and now it's changed.

5 Q.   I'm asking you whether a chip is a card, sir.

6 A.   Well, that's -- right. That's different from what

7 we were talking about earlier. I just want to make that

8 clear.

9   I haven't looked recently. It's not something

10 I went off and specifically tried to find.

11 Q.   So, you don't remember ever seeing that, right?

12 A.   I can't recall one specifically.

13 Q.   And you don't remember ever seeing an academic

14 publication that said that a chip is a circuit board,

15 right?

16 A.   If you asked me to name a publication

17 specifically, I don't think I could.

18 Q.   Okay. Now, are you familiar with the *IBM*

19 *Dictionary of Computing*?

20 A.   I'm familiar with it.

21 Q.   Okay. I've added an excerpt from the *IBM*

22 *Dictionary of Computing* to your binder there, and in

23 there is a definition of "sound card." It's on the last

24 page. It says, "Sound card in multimedia, an add-on

25 adaptor card that incorporates a synthesizer without a

1213

1 musical keyboard and has audio output jacks for the sound

2 created." Do you see that?

3 A.   I'm just getting this. Let me re-read it.

4 Q.   Sure.

5 A.   Okay.

6   MR. HOLDREITH: Your Honor, I have an

7 objection to this document. The date is 1994, if I'm

8 reading this correctly. This was not something that's

9 been provided to us previously. This is something that

10 should be measured in 2001. I'm not sure this is

11 relevant.

12   MR. STEPHENS: Your Honor, it's clearly --

13   THE COURT: Wait. Overruled.

14 BY MR. STEPHENS:

15 Q.   Is this consistent with your understanding of the

16 meaning of the word or phrase "sound card," Dr. Almeroth?

17 A.   This is an older definition. I think it's one of

18 the things that a sound card could be. Clearly I think

19 it's a very specific definition. The fact that it talks

20 about a synthesizer without a musical keyboard, it's very

21 focused on a particular kind of sound card. I actually

22 believe the definition of a sound card, especially more

23 recently than 1994, would be much broader than this.

24 Q.   Okay. You haven't provided any dictionary

25 definitions or any other kind of publications to support

1214

1 your view that a sound card could be a chip, correct?

2 A.   I believe I have. In fact, I believe I've

3 identified what's referenced in the patent as a "hardware

4 guide" that talks specifically about the sound card and

5 the fact that the sound card could be a chip.

6 Q.   Okay. You didn't testify about that earlier

7 today, right?

8 A.   I haven't as of yet.

9 Q.   Okay.

10 A.   But you just --

11 Q.   Thank you.

12 A.   -- asked me the question.

13 Q.   Bear with me one moment here, please.

14   MR. STEPHENS: If we could put up Plaintiff's

15 Exhibit 1010.

16 BY MR. STEPHENS:

17 Q.   Now, Dr. Almeroth, I think it was on Friday you

18 testified about what the invention is and described it

19 with reference to the specification. Do you remember

20 that?

21 A.   At least one of the inventions, yes.

22 Q.   Okay. And this is one of the demonstratives you

23 used to do that; is that right?

24 A.   Yes, I did.

25 Q.   And you said that the continuous play is described

1215

1 in the patent -- in the '076 patent at Column 12, lines

2 10 to 12 and Column 12, lines 21 to 25; is that right?

3 A.   Yes, sir, that's correct.

4 Q.   And those are different than what the court has

5 identified as the corresponding structure for the means

6 for continuous reproduction; is that right?

7 A.   Let me look at that part of the patent.

8 Q.   You don't need to look at the patent. You can

9 compare the citation you have here with what's in the

10 jurors' notebooks for the means for continuous

11 reproduction, if we could compare those two.

12   It says, on the next page actually --

13 A.   I'm sorry. Let me find that page. What page

14 number, then?

15 Q.   In what I have it's page 2 of the '076 means for

16 continuously reproducing.

17 A.   Okay. I'm there.

18 Q.   And the court -- instead of identifying Column 12,

19 10 to 13 and Column 12, 21 to 25, identified Column 12,

20 line 16 to Column 13, line 11 and Column 34, line 28 to

21 Column 35, line 44, right?

22 A.   Yes.

23 Q.   Okay. So, the court identified a different

24 structure for that continuous playback function than you

25 did when you were explaining the invention to the jury on

1216

1 Friday, right?

2 A.   No. I disagree. It wasn't a different

3 construction.

4 Q.   That's okay. I understand. Thank you.

5   Now, it's also true that the court cited

6 different parts of the patent for the "go" command as

7 well, right? So, you cited Column 14, line 20 to 21 and

8 Column 34, line 24 to 28.

9   And if we go to the '178 patent -- bear with

10 me a moment here -- "a processor for discontinuing the

11 reproduction" --

12 A.   What page are you on? I'm sorry.

13 Q.   It's page 10 in the version I have, which I guess

14 would match yours.

15 A.   Okay.

16 Q.   So, you identified Column 14, line 20 to 21 and

17 Column 34, line 24 to 28.

18   The court identified Column 14, lines 25 to 26

19 and Column 14, line 35 to 39 and Column 34, line 19 to

20 Column 35, line 52.

21   MR. HOLDREITH: Your Honor, I have an

22 objection. I believe the court's citations are to the

23 '178 patent. These are citations to the '076 patent.

24   MR. STEPHENS: That may be true for this one.

25 So, I apologize. I'll go back to the '076 patent.

1217

1   THE COURT: Okay. Well, at this time we're

2 going to go ahead and take a break.

3   Ladies and gentlemen, I'm going to ask you to

4 be back again at 8:30. Please remember all of my

5 instructions. Don't discuss the case with anybody.

6 Don't let anybody discuss the case with you. Should

7 somebody try to interfere, influence, or talk with you

8 about the case, don't do it. Get their name and report

9 it to the court security officer.

10   Recall, as I've said before, anything I've

11 said or -- based on rulings in this court, whether I've

12 overruled an objection, sustained an objection, is not to

13 be indicated that I have an opinion on the facts of the

14 case. You're the ones who decide the facts. I'm more

15 like the umpire or referee looking at the rules and how

16 the thing is running here, but in the end you've got to

17 decide what the facts are in the case. So, don't take

18 it, as I said before -- and I've told you this and I'll

19 tell you again -- that anything I say or do indicates

20 that I have an opinion on the facts.

21   Again we'll be starting again at 8:30 in the

22 morning. Please leave your juror books in the jury room,

23 and I'll see you at 8:30.

24   (The jury exits the courtroom, 5:03 p.m.)

25   THE COURT: You may want to get that

1218

1 straightened out on the use of the patents.

2   MR. STEPHENS: Your Honor, I apologize.

3   THE COURT: That would make some sense on that

4 one, but you'll have the evening to do that and make sure

5 we're looking at the right -- or comparing apples with

6 apples on these ones.

7   MR. STEPHENS: That's correct.

8   THE COURT: Anything from Personal Audio that

9 needs to be taken up outside the presence of the jury?

10   MR. SCHUTZ: No, your Honor.

11   THE COURT: Okay. From Apple?

12   MR. CORDELL: No, your Honor. Thank you.

13   THE COURT: All right.

14   MR. STEPHENS: Your Honor, if I may, I just

15 want to apologize for the confusion on the 112 ¶6 versus

16 doctrine of equivalents. It was entirely inadvert, I

17 assure you.

18   THE COURT: Well, I'll take it as that.

19   And in this case, more than almost any I've

20 had, that particular confusion or dichotomy in the use of

21 the words appears to me to be something that's going to

22 be important. It's going to be important to your

23 defenses and your invalidity. It's important to your

24 case. And I have been working or struggling in my mind

25 how to come up with some definitions that make some sense

1219

1 because if we just use the same-old, same-old "structural

2 equivalents," "doctrine of equivalents," I think that

3 makes it hard on the jury. And if something could be

4 worked out that we could make it easier -- obviously it

5 has to be based on the law given to us by the Federal

6 Circuit. But it would, I think, make the questions and

7 the answers a lot easier; and I do think it's -- I mean,

8 in some cases I've seen or many cases I've seen it was no

9 big deal; but in this one I think it is.

10   MR. STEPHENS: I agree, your Honor; and we

11 have given a proposal to the other side. I'm hopeful

12 we'll work something out with them.

13   THE COURT: Okay. Well, if we can, that would

14 be helpful. If you can't, then I'll be handing you my

15 proposal and then we can take the objections on that.

16 Okay?

17   All right. Then in that case we are through

18 for the evening. We're in recess, and I'll see you back

19 at 8:30.

20   (Proceedings adjourned, 5:06 p.m.)

21 COURT REPORTER'S CERTIFICATION

22   I HEREBY CERTIFY THAT ON THIS DATE, JUNE 28,
   2011, THE FOREGOING IS A CORRECT TRANSCRIPT FROM THE
23 RECORD OF PROCEEDINGS.

24 *Christina Bickham*
   CHRISTINA L. BICKHAM,   CRR,   RMR

25

Christina L. Bickham, RMR, CRR
409/654-2891

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$1,000 [1] - 1059:20
$1,500 [2] - 1059:24, 1063:11
$10,000 [2] - 1056:18, 1063:3
$120 [7] - 1127:10, 1127:11, 1143:2, 1143:4, 1143:7, 1147:17, 1147:18
$3,000 [3] - 1119:14, 1127:12, 1147:23
$40,000 [1] - 1126:17
$450,000 [1] - 1027:8
$500 [1] - 1027:5
$500,000 [1] - 1048:20
$80 [2] - 1119:9
$85 [2] - 1125:23, 1126:1

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'076 [100] - 899:7, 899:19, 899:21, 902:8, 908:15, 912:10, 920:25, 921:3, 923:13, 927:12, 927:17, 928:23, 929:3, 930:9, 930:10, 930:17, 930:19, 931:1, 931:3, 931:5, 931:13, 931:19, 933:17, 934:4, 934:6, 934:8, 934:12, 936:10, 936:18, 936:20, 937:10, 937:20, 938:23, 939:4, 939:10, 939:17, 940:17, 940:24, 944:8, 945:1, 945:2, 945:4, 945:16, 945:21, 945:24, 948:7, 948:18, 948:20, 950:18, 950:21, 951:14, 966:14, 968:13, 968:22, 968:24, 969:11, 969:15, 970:1, 970:5, 970:6, 970:16, 971:3, 971:9, 971:10, 972:11, 972:23, 973:22, 974:1, 974:23, 975:18, 976:1, 977:4, 977:9, 982:15, 987:3, 987:4, 991:7, 991:10, 995:3, 995:5, 995:8, 998:5, 1005:24, 1006:1, 1007:2, 1028:23, 1037:17, 1169:2, 1175:15, 1175:22, 1175:24, 1176:2, 1182:10, 1196:13, 1204:22, 1215:1, 1215:15, 1216:23, 1216:25
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